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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

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A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

EDITED BY

PROFESSOR G. F. STOUT,

WITH THE CO-OPERATION OF DR. E. CAIRD, PROFESSOR WARD, PROFESSOR PRINGLE-PATTISON, PROFESSOR E. B. TITCHENER, AND OTHER MEMBERS OF AN ADVISORY COMMITTEE.

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I.—CONTRADICTION AND REALITY.

By Bernard Bosanquet.

The purpose of this paper is to insist on the familiar view which treats Negativity as a fundamental characteristic of the Real; to exhibit this view in connexion with one or two points in logical theory, and to insist that its value depends on the principle being pressed home in its full force.

1. I start, then, from what I take to be the nature of pure formal or logical Contradiction. The crucial point seems to be that no predicates are intrinsically contrary to one another. They only become so by the conditions under which they are drawn together. Contradiction consists in "differents" being ascribed to the same term, while no distinction is alleged within that term such as to make it capable of receiving them.

This is Plato's law of Contradiction—what does or suffers "opposites" (it is enough to say 'differents') in the same relation must in itself be two and not one,—and it is the root of his distinction between Opinion or Appearance and Knowledge or Reality. It is a formal contradiction if you say, "This colour is both beautiful and ugly, *i.e.*, not-beautiful". It ceases to be a contradiction if you say, "This colour by daylight is beautiful and by candlelight is ugly". Are not, it may be asked, those terms intrinsically contrary which can in no case be affirmed of one another, such as the circle and the square? Why, no. They do not impede one another or the process of thought unless we bring them together in a special form, to which their content is inadequate. They may quite well be conjoint predicates of the same complex

term, and when thus affirmed, and protected by adequate distinction, have nothing in them contrary to one another. It was a friend, I think, of Mr. Verdant Green, who described a college cap as an abortive attempt to square the circle, and better examples of the conjunction would not be hard to find. There are places for all predicates; and when all predicates are in their place, none of them is contrary to any other. It is the bringing them together, on an inadequate basis of distinction, which is the essence of contradiction and contrariety; and this may happen with any diverse terms whatever. I may venture to note that even Dr. McTaggart, by implying in his description of contradiction[1] that the predicates are antecedently "contrary" suggests to my mind that he has not completely analysed its nature. It is a trivial point in itself; but perhaps it indicates that he would not agree with me in taking Contradiction as a mere consequence and symbol of something much more fundamental.

Logical Contradiction, then, is an intellectual deadlock, caused by the attempt to bring together two or more different terms without adequate adjustment of content for their reception. Contradiction in this sense is rightly pronounced unthinkable, and cannot therefore be a characteristic of Truth or of Ultimate Reality. For these, if they are anything, are experiences in which Thought is triumphant, and harmonious with itself at least, even if with more besides.

It will be a first step in our argument if we can decide at this point how far even such bare formal Contradiction is in some sense an actual existent and a characteristic of Reality. We see that it cannot be a characteristic of Ultimate Reality, and we are disposed at the first look to agree with eminent thinkers that it is simply a blunder of our own making, something subjective, and incapable of belonging to the actual world. But in saying this, we seem to have unduly idealised the world of fact, and taken it as equivalent to Ultimate Reality. For the unrest of action and cognition seems to arise from the perpetual presence of implicit Contradiction in the nature of actual fact, a presence which becomes explicit on the slightest reflexion and forces us to go further in the hope of faring better. It must, I infer, be admitted that fact, as given in ordinary experience, is both actual and self-contradictory. To deny this is either to pronounce all objects of cognition subjective or illusory so long as cognition is progressive,—for its progress is a proof that it still meets with contradiction,—or to stake out, within experience, some

[1] *Studies in Hegelian Dialectic*, p. 9.

fixed world of realism, which would after all not coincide with actual fact in the given variation and development of the latter. Logical Contradiction, then, is a characteristic of Reality so far as presented in the actual world of fact. In the form of pain, dissatisfaction, and unrest, it may almost be called itself an actual existent. It consists in an attempted synthesis, which fails owing to the inadequate adjustment of the contents employed; and it is actual over the whole region of progressive action and cognition, which is equivalent to the region of finite experience. This view of its range is established by the fact of progress.

2. Our next step is to ascertain what form or spirit of difference survives when a logical contradiction is resolved. The point I would draw attention to is that we are here dealing with a survival of what was present in Logical Contradiction. Nothing is changed, except that what was attempted has been achieved. The contents are diverse, as they were; they rush towards each other through the same rational impulse whether in its practical or in its intellectual form; the difference is merely that now they have been readjusted, and can carry out their union. How are we to describe the form or spirit of their difference?

I may illustrate—it is merely an illustration, for I do not wish to raise purely historical questions—by Hegel's view of contradiction. It is familiar ground that Hegel has been accused of denying or disregarding the logical law which pronounces Logical Contradiction to be unthinkable, and that his best interpreters (Dr. McTaggart and Mr. Bradley) have cleared his reputation of this impiety. The dialectic, so far from disregarding the Law of Contradiction, rests, as they have pointed out, entirely upon it. It is because Contradiction is unthinkable and intolerable that a conjunction of judgments which makes their predicates irreconcilable demands a readjustment of contents and the formation of a new totality.

Now, while I admit that this is contained in Hegel's view of Contradiction, I cannot but think that there is something more behind. Hegel obviously feels himself fundamentally in antagonism to the current formal view of Contradiction as merely unthinkable. No words are too strong for him to express his scorn of such an attitude. "What moves the world is Contradiction; it is ridiculous to say that Contradiction is unthinkable. What is true in this assertion only comes to this, that Contradiction cannot be final, and that by its own action it cancels while it maintains itself (*aufhebt*). The cancelled and maintained contradiction however is not

abstract identity, for this is only one side of the antithesis."[1] Here, I admit, we are in the region of Essence, where oppositions are sharp and pointed. But this does not account for the whole of Hegel's feeling, which is fundamental with him. "Whereas people say Contradiction is not thinkable, the truth is that in pain which a living being feels it is actually a real existence."[2] He says the same of motion in space: "Formal Thinking prescribes to itself the rule, that Contradiction is not thinkable; but in fact the thinking of Contradiction is the essential moment of the Notion".[3] These latter passages are from the discussion of Life and of the Absolute Idea. All this is nothing new; but it is relevant to my purpose to call to our minds how uncompromising Hegel's position really is about what he calls Contradiction, and how little he enters into the current isolation of that feature in experience, while admitting and maintaining that it is essentially provocative of change.

A suggestion can now be made in answer to the question, "What survives when a Contradiction is resolved?" The reply might be, "A successful expression of negativity". Not that we are taking Hegel's views as authoritative; but this is a consideration that occurs to us as accounting for the fact that he, on the one hand, with all logicians, sees in Contradiction something that cannot be tolerated; and on the other hand, evidently with his deepest insight and conviction, holds that there underlies it something which is the pulse of life and the movement of the world, not through the fact of unthinkableness, but through the structure of Reality. This something he often calls Negativity, and it would seem to express the whole aspect or tendency of anything real, which finds imperfect manifestation in what has been described above as Formal or Logical Contradiction. Negativity, then, it is submitted, is fundamental in all that is real. It is the same characteristic which Dr. McTaggart describes as the tendency of all finite categories to complete themselves (notice the limitation to finite categories), and the same which Green expresses as the nature of a Self which is Self-conscious or at once its Self and its other. And in defining an answer to the question immediately before us—What form or spirit of difference survives when a logical Contradiction is resolved? we may take our bearings from Dr. McTaggart's description of this attribute of Reality. For him, it is a tendency not to negation, but to self completion.

[1] *Encyclop.*, 119, Zusatz 2.
[2] *Wiss. d. Logik*, Theil ii., s. 249. [3] *Ibid.*, 332.

Negation, he holds, is incidental, and in the progress towards perfection tends to disappear. Even self-completion is only in the finite categories. In perfection, therefore, as I construe the implication of his conception, both would disappear altogether. Not that Dr. McTaggart is careless of the consideration that Reality must include and do justice to everything. But some things, as I read him, may be absorbed without leaving a trace, and negation is one of them. This is not unconnected with his view of the importance of pleasure. The view here submitted may give its bearings as I said by referring to Dr. McTaggart's account of the matter. Logical Contradiction, I admit, is a vanishing element, belongs to the sphere of the finite, and minimises itself in the higher types of experience as the character of finiteness approaches a minimum. With negativity, or with negation, the case seems to be different. This belongs to the fundamental structure of everything that is real. It is not a disappearing quantity in the progress of experience. And for this reason, that it does not, like Logical Contradiction, depend on inadequacy. So long as there is no science, and the world baffles and contradicts the mind of the savage at every turn, there can be no such sense of a reality not-ourselves beyond and over against the mind as there is in the days of Newton or of Darwin. The negation is correlative to the affirmation. The important question about negation always is, not, how much meaning can be conjured out of mere denial, but why, in the most highly developed experience, negation bears an equal part. And the answer, as I read it, is fundamental to the nature of Reality. Affirmation and negation may even become co-equal and interchangeable in content, but a real whole must always *bonâ fide* hold them both together.

This, therefore, it is submitted, is the spirit of difference which survives even in a resolved contradiction, and where we possess what is most real and thinkable. Everything contributes to the whole, and the failure, which made the contradiction, no doubt depended upon the distinctness of the two sides, which survives in and tends to perfect the completed union. But it appears to me that we are running away from the problem if we treat the mere fact of failure as something which, surviving as such, qualifies the successful union. The qualification, whatever it is, can surely count and work only as it survives within the completed whole, and it is in the character of this whole itself that we have to find the experience of negativity, which is not, according to the view here insisted on, a note of imperfection, but is a

characteristic that deepens and does not fade, as the other characteristics of Reality grow more complete. Negativity is not all Reality, but the completer the Reality the deeper the Negativity.

How then is Negativity experienced? and if it only means the distinctness necessary to identification, is not a term connected with the idea of negation too violent and exaggerated to use for it? Now no doubt Solutions of contradiction, Completeness, Satisfaction, are possible at many levels of life, and compatible with very easy and effortless experiences. But it is here suggested that in a true typical satisfaction there is always a certain exaltation which depends essentially on the fact that in satisfaction the self goes out into the other, and, though or because it becomes enriched, is beyond its normal barriers, and in a word, to put the whole paradox brutally, is undergoing an experience technically, and in its fundamental nature, homogeneous with self-sacrifice. How can this be construed of anything but a finite being? Obviously not by help of such words as have just been used, presupposing limits and a temporal modification in the self. But there is a point of some interest which may at least serve to bring out the distinction of principle between taking Negation as, like Contradiction, an incident of Finiteness, and taking it as fundamental in Reality.

3. It has already been implied that the current view of experience, influential even among philosophers, confuses Contradiction and Negativity. The principle that an element of Reality can be completed only through what is not itself is confused with the imperfection of adjustment in finite beings or contents which so far hinders such completion from taking place. And thus it comes to be held that Negation, like Contradiction, is a vanishing quantity, and that in a complete experience it would disappear. The point of interest which was just now referred to as emphasising the distinction of principle is the extreme difficulty of avoiding this confusion. When we endeavour to insist upon the nature of self-consciousness, as self and other in one, by instances and analyses drawn from actual experience, we constantly find ourselves appealing to characteristics which depend upon ignorance and imperfection. The ideal which we have in mind is the self *in* the other, but in actual experience we have little more than the self *and* the other. Nettleship observes upon this in the biography of Green. Now the crux in the distinction of principle arises at this point, because of the apparent fact that it is the discrepancy of self *and* other that *for us* gives interest to the realisation

of self *in* other. We may take as a characteristic case that apparent responsiveness of external Nature to human moods, the perception of which is at least a great part of the apprehension of the beautiful. The freshness and strength of the feeling which such perceptions bring with them is surely in a great measure dependent on the fact that they come to us as undesigned coincidences. It is for this reason that they seem to bring to us a confirmation of our own sentiments which is rooted somewhere beyond the foundations of our own self. If we were convinced that Nature was somehow just another offshoot of the same principle as ourselves, and not merely convinced of it, but able to see it pretty completely in detail, then we are inclined to think the return upon ourselves would lose in vigour what it gained in perfection, and the fascinating sense of something beyond would be transformed into a dull feeling that it is all one. Now the case thus stated emphasises the opposite side of the question from that which was insisted on above. The sense of the beyond and of something over against the mind must be immensely greater, it was urged, for Newton or for Darwin, than for a savage to whom nature is chiefly an incalculable interference. Both points of view seem *prima facie* justified and their contrast just illustrates the parting of the ways. In a word, it seems *natural* to take the characteristic which distinguishes the other from the self as lying in discrepancy and unfamiliarity, which may be symbolised by Logical Contradiction as described at first. But it is also plain that such a characteristic excludes *pro tanto* the correspondence of the two sides in their full detail and complexity, and must be a vanishing characteristic as experience approaches completeness. We must then elect, it would appear, to conclude, that to interpret the beyond or the other which confronts us in experience, as due to our ignorance and defect, and as a vanishing quantity in the progress of the mind, is to confuse the incident with the essence; and that as in the example of natural knowledge, the otherness becomes more definite as the object becomes more adequate to the subject. It is partly perhaps with the view of construing these appearances that many thinkers have embarked on the adventure of treating all the content of life as a translation of the interaction of conscious beings. Then no doubt we have the conception of an 'other' which is able to maintain its independence—its otherness—along with almost any degree of transparency or familiarity. And I mention the speculation chiefly for this reason, to make clear, if it does not seem clear, what the particular crux is which I

have had in mind. We may try to conceive an intelligent being who has learned all that a sunset or even a toothache can teach him, and in that case we feel a difficulty in comprehending how they can any longer seem experiences from which, as his other, his self has anything to gain. But a person, however well you know him, is still an independent source of response, and it may be argued that here, and here only, you find the true other of a self.

I feel a difficulty about this speculation which may rest on misapprehension, but which I will indicate in a few words, because it stands in the way of our first conclusion. What we must have for any theory of Reality and especially for Negativity to work in, is the content of life, pains, conflicts, sacrifice, satisfaction. Now there is a difficulty, is there not? in getting these contents out of a universe of persons, except by presupposing, in the outside or other of every person, what might as well have been presupposed as the outside or other of the persons commonly recognised as such. It is things, is it not? which set the problems of life for persons; and if you turn all things into persons, the differences which make life interesting are gone, except in as far as for practical purposes you turn the persons back again into things, *i.e.* your food, or your own body, or the place in which you were born. In making the outside adequate to the highest claims, you have turned it into an inside, and so, while professing to meet the problem of the outside in the highest degree, you have, it almost appears to me, really abandoned it altogether. If the instruments and attributes of my life are turned into other persons, I, surely, am reduced to emptiness and deprived even of my character, for my character is not, without external activity. This criticism may be mistaken, but it may pass as affirming that we must perceive as actual the distinctions which give life its content.

4. It is time to indicate the conclusion, an old conclusion, to which I have nothing to add, except by pleading that its point is lost if it is not conceived in its whole depth of paradox.

I will try to express it through antitheses to current opinions, which will bring out the reasons for which it seems to me worth caring about; and these are also the characteristics which define its peculiarity.

a. It is a mistake to treat the finite world, or pain, or evil, as an illusion. In answer to the question whether they are real or are not real, I see nothing for it but to repeat what Hegel says of Space and Time, "Everything is real, so long as you do not take it for more than it is". Finiteness, pain,

and evil are, on the view here accepted, essential features of Reality, and belong to an aspect of it which does not disappear even in perfection. The view that they are illusions says that if we knew everything we should see that there was no pain or evil at all. In a certain sense the two views may be brought near together, but my plea is that all depends on being in earnest with the idea of negativity, and that from that point of view the idea of *illusion* is rejected, though that of *appearance*, as something *actual* but *contradictory*, is accepted. Hegel mentions the name of illusion in the matter; but, as I understand, the illusion which he speaks of is not the belief that finiteness is actual, but the inference that this being so, there is nothing more to be said, or in other words, that the actual is necessarily ultimate. At all events, as against the idea that finiteness, pain and evil are an illusion, the view here indicated would maintain that conscious beings actually suffer and do wrong because it is their nature to complete themselves; and the general form of this completion involves as one factor in it the loss of self, and in the finite world this is emphasised by various degrees of what we have called Logical Contradiction, that is to say, inadequacy of the elements in which completion is sought. It would follow, and this seems to agree with the best ethical theory, that the ultimate logical structure, if I may so speak, of suffering and of evil is the same as that of satisfaction and of good. This is noticeable of course in Green's theory of morality. The difference between them is one of the adequacy of contents to self-completion, and their kinship is seldom altogether latent even in finite experience. I may refer to Mr. Haldane's observation on the death of animals in the second series of Gifford Lectures, and to the nature of the fullest æsthetic exaltation.

β. The same mode of thought would be hostile to any conception of the divine nature which should involve stability and perfection in such a sense as to exclude activity and the general form of self-sacrifice. It is not intended to adhere to the view of those who conceive the divine being as finite and possibly as one of a number. The intention is rather the reverse, namely, to maintain that finiteness *ipso facto* arises, if negativity is not given its full significance in the conception of the supreme nature. The Master of Balliol's criticism of Aristotle's Theoretic life as literally interpreted puts this point very clearly. It is not an imperfection in the Supreme Being but an essential of his completeness, that his nature, summing up that of all Reality, should go out into its other to seek the completion which in this case alone is

absolutely found. The other in question can only be finite experience, and it is in and because of this, and qualified by it, that the Divine nature maintains its infinity. And therefore it may be said that the general form of self-sacrifice—the fundamental logical structure of Reality—is to be found here also, as it is everywhere. Not, of course, that the infinite Being can lose and regain its perfection, but that the burden of the finite is inherently a part or rather an instrument of the self-completion of the infinite. The view is familiar. I only plead that it loses all point if it is not taken in bitter earnest. I have had much in mind Nettleship's fragment on the Atonement.

I have used remorselessly phrases which imply time—"activity," "going out of oneself," "seeking and finding". The objection to predicating time of the supreme experience lies in the nature of self-completeness, and if on the one hand succession seems incompatible with this, on the other hand the idea of instantaneousness, which is a temporal idea, must not here be introduced to embarrass our thoughts. I must not dwell upon the matter at this last moment, but I think we must distinguish the conception of changing or progressing as a whole, from the conception of uniting, in a self-complete being, characteristics which for us demand succession. I may refer again to one of Nettleship's fragments, that on Immortality. If we were to be barred from ascribing content to the Supreme Being, because for us all content is developed in time, the end must be that for us the Supreme Being will be nothing.

γ. Finally, the point of view is hostile to the form in which questions of optimism and pessimism are usually raised, as to the surplus of pleasure over pain in the universe. Even Mr. Bradley has discussed this question with reference to the Absolute, but I cannot help thinking that it is improperly stated. What we as factors of Reality demand is not, if I am right, essentially pleasure, but satisfaction; that is, the sense that by help of the negative we have attained ourselves. This no doubt implies some pleasure; but the point is, if I am not altogether wrong, that in satisfaction the pain or difficulty as a moment—*i.e.*, a phase which remains an element—contributes actively to the positive attainment, while in comparing pleasure and pain as experienced facts of feeling I suppose they must retain their first positions as *plus* and *minus* quantities. This is one point, and another follows from it. The comparison of pleasure and pain in respect of quantity—even if we disregard the difficulties pointed out in anti-Hedonist controversy—betrays an in-

organic point of view. The question cannot surely be how many moments of pain you have experienced, and whether you have had enough moments of pleasure to outweigh them, but whether the experience has done its work and returned you to yourself a complete or at least a completer being. So, it would seem, the problem should be stated about the universe. Not, if we could reckon up moments of equal pleasure and pain, which of them would be found to outnumber the others? but rather, is there reason for thinking that pain and finiteness are elements playing a definite part in the whole, such that its completeness depends upon containing them? Broadly speaking, I suppose, experience suggests to us that a soul which has never known pain, like a nation that has never known war, has no depth of being and is not a personality at all. Of course this way of looking at the matter does not by itself dispose of the suggestion that the cost even of perfecting a soul may be too high; but the conviction that there is and essentially must be a certain cost, corresponds to our best insight in the sphere of everyday experience.

And so, in the end, *if* such a question as that of pleasure or pain in the Absolute has reality for us at all, it seems important where we look for the suggestions from which we are to start. We ought not surely to start from commonplace experiences, but only from those in which self-expression is at its fullest, rare moments such as those to which Aristotle alludes in the discussion of the Theoretic life. It may be noteworthy that Aristotle consents while Plato refuses to ascribe the feeling of pleasure to the Divine nature; and this may be connected with Aristotle's apparent omission of negativity from his conception of ideal experience. In his distinction, however, between the enjoyment of self-realisation and the enjoyment of recreation he throws out a hint which we might do well to follow. And for him as for us, apparently, the activities primarily devoted to sheer enjoyment and delight, are wrested by the very structure of man's soul to severer forms of self-expression; so that the completest of all the creations in which as yet man has freely and spontaneously sought what he most enjoys, is, I presume, for us, as for Aristotle, that of poetical tragedy. This does seem to be a paradox worth noting, and it might be driven home by all sorts of considerations. I am only using it to set the question of optimism in a certain light; that is to say, to state it not by looking for pain to be as it were quantitatively submerged or neutralised by pleasure, but by looking for a completeness in which souls have found themselves, or

realised their inherent structure; which completeness, considered as a whole, cannot be quantitatively compared with the factors or elements, such as negativity, subordinated within it. If we had to depend on Contradiction as such, then I suppose completeness could only be in its abolition; but the distinction between Contradiction and Negativity seemed to be suggestive on this point.

II.—AVENARIUS' PHILOSOPHY OF PURE EXPERIENCE (I.).

By Norman Smith.

Avenarius propounds his philosophy from a standpoint whose originality borders on paradox. While all previous philosophers have regarded experience as awaiting interpretation through metaphysical conceptions, Avenarius holds pure experience to be self-intelligible, and the existing metaphysical theories to be the only facts that call for philosophical explanation. Sometimes he describes his philosophy as the philosophy of pure experience, and sometimes as 'empiriocriticism'. The former title refers to its content, the latter to its method. He claims that, as regards method, it combines and transcends the philosophies of Hume and Kant. The resulting system is as original in its positive teaching as it is novel in orientation. For though in certain aspects it is closely akin to the metaphysical idealism of Spinoza and Hegel, and recently in this country has been employed as a buttress to the Bradleian philosophy, its most competent critic has described it as the latest, and, in the present state of knowledge, the only tenable form of materialism.[1] A system so strongly affiliated is, even apart from its intrinsic merits, sufficiently remarkable to claim attention. In this article I shall state and criticise the main principles of Avenarius' philosophy. But in so doing I shall consider them only from the point of view of the problem of knowledge, and as leading up to the statement of his theory of the introjectionist argument. That theory, which has been adopted by several English writers, I reserve for detailed criticism in a second article.[2]

[1] Wundt: "Ueber naiven und kritischen Realismus" in *Philosophische Studien*, vol. xiii., pp. 334-335, 349 ff.

[2] The following are the titles and dates of Avenarius' works: *Ueber die Phasen des Spinozischen Pantheismus*, 1868. *Philosophie als Denken der Welt gemäss dem Prinzip des kleinsten Kraftmasses: Prolegomena zu einer Kritik der reinen Erfahrung*, 1876. *Kritik der reinen Erfahrung*, vol. i., 1888; vol. ii., 1890. *Der menschliche Weltbegriff*, 1891. "Bemerkungen

The assumptions which determine Avenarius' central problem may, if somewhat freely stated, be expressed in the following manner. Nothing exists save experience; and the fundamental characteristic of the content of experience is space. The self apprehends itself as an embodied existence, and so as spatially related to the objects around it. All its perceptions, thoughts and feelings, have reference direct or indirect either to the body or to its environment. Now the spatial world thus experienced varies together with one particular part of itself, namely, with the brain. And this relation is mutual; change in either involves change in both; they stand in functional relation, varying simultaneously with one another. Since nothing exists save as experienced, and since as experienced it involves change in the brain, the relation must be of this nature. On the other hand, however, objects are causally related to the brain, and by their changes produce changes in it. This causal relation as involving sequence and implying independent self-centred existence holds only in the forward order, and therefore excludes the possibility of simultaneous variation. The fundamental problem of metaphysics is to reconcile these two standpoints, the attitude of pure experience with the standpoint adopted in physics and physiology. How can the whole vary simultaneously with a part of itself, and with a part which is causally dependent for its changes upon its relations to the rest of that whole? Avenarius will have nothing to do with the solution offered by subjective idealism—that our experience as purely subjective may vary simultaneously with those brain-states which real external objects have produced. That solution rests on a dualism which Avenarius denounces as ungrounded and absolutely false. Our experienced world is reality, and its functional relation to its own component, the brain, must therefore be reconcilable in some other

zum Begriff des Gegenstandes der Psychologie" in *Vierteljahrsschrift für wissenschaftliche Philosophie*, vol. xviii. (1894), vol. xix. (1895). A very useful summary of the *Kritik* is given by Emil Koch in the *Archiv für systematische Philosophie*, vol. iv. (1898). Petzoldt has published (1900) the first volume of his *Einführung in die Philosophie der reinen Erfahrung*. It gives an admirable account of Avenarius' position as embodied in the *Kritik*. Its value is, however, seriously impaired by its strange neglect of the *Menschliche Weltbegriff*. It does not seem to contain a single reference to that work, nor consequently to the more purely metaphysical aspects of Avenarius' philosophy. Petzoldt's second volume appeared in 1904, but I have not been able to consult it. An excellent and detailed criticism of Avenarius' philosophy is given by Wundt in the articles above referred to. Carstanjen has contributed an article on Avenarius to MIND, N.S., vol. vi.

manner with the equally undoubted causal relations of that brain to the objects external to it.

Avenarius' detailed analysis of the natural point of view, of the attitude, that is to say, of pure and complete experience, and of its relation to the scientific, I shall now proceed to state. As far as possible I shall avoid the technicalities of Avenarius' special terminology.

I with all my thoughts and feelings find myself in the midst of a spatial environment.[1] This environment is composed of manifold elements which stand in relations of dependence to one another. Within it I also find my fellow-men. They interfere with the common environment, altering certain parts of it and maintaining others, and of all their actions they through words and gestures reveal the intention and reason. In everything they agree with myself. I accordingly believe that they are beings like myself, and that I am myself a being like them. The spatial world which thus includes both myself and others is for ordinary consciousness a something given, existing, familiar, known, lasting on in thought, constantly rediscovered as fact, and in all its repetitions remaining the same.

This natural consciousness is composed of two elements which from a logical point of view are of very different value, namely, of an experience and of an hypothesis. The experienced—*das Vorgefundene*—includes, as has just been said, the bodies of my fellow-men. The hypothesis lies in the interpretation which I give to the movements of my fellow-men, in the interpretation that they are *expressive*, that is, that they are dependent on feeling and will. This hypothetical element can be eliminated. I can, by an effort, think of my fellow-men as being merely automata, extraordinarily complex but without thought and feeling. Our reason for rejecting this attitude is not its unnaturalness or its unfruitfulness. Apart altogether from the difficulties of consistently developing such a view, there is a valid reason for regarding it as false. For, if the elimination of the hypothesis is suggested by its formal logical character as hypothesis (in distinction from experience), its retention is enforced by its actual agreement with experience. In the sole case in which through personal experience I am acquainted in all its relations with the movements of that mechanism which is named 'man,' I find it in definite relations to thoughts, feelings, volitions, etc. The denial of the hypothesis therefore involves a theory, equally hypothetical, which in its content is further

[1] *Der Menschliche Weltbegriff*, § 6 ff.

removed from my own experience than the hypothesis itself. And, since the content of my assumption is the matter of another individual's experience, though the hypothesis introduces a duality or plurality, it does not cause a dualism in the philosophical sense. Nothing is assumed which is not or cannot be experienced either by myself or by others.

The proof that the natural consciousness involves no dualism demands, however, a fuller analysis of its various elements. The first distinction which Avenarius notes is that between things and thoughts.[1] Here, again, there is duality but no dualism. The portrait of a friend which is before me is comparable with the appearance of my friend which I recall in thought. I can note that the features, etc., are the same or different, and can state the outcome of the comparison as similarity or the reverse. If we interpolate the image between thing and thought we have a series the members of which are comparable with one another. And being, as the natural consciousness admits, thus relatively comparable with one another, there cannot exist that absolute heterogeneity between thoughts and things which some philosophers have asserted. The chief difference between them is, indeed, merely one of time. The sense-experience of, say, a tree, is a *first* experience; the tree as it reappears in thought or image is a *second* experience. Were the two absolutely different experiences we could no longer speak of the image as the reappearance of the original experience, and yet at the same time we should have to make it dependent for its occurrence on what, as absolutely different from it, could never account for it.

Avenarius' next distinction is between what he names the absolute and the relative points of view[2]. Both may be adopted without desertion of pure experience. In the absolute point of view the self is left out of account, the parts of the environment being apprehended in and for themselves. A tree, for instance, is then apprehended as existing in space in definite relations to other things, as changing with the seasons, and as being in all these relations and changes independent of the presence of the self. It may even be known as having been planted before the self was born. The world thus experienced is apprehended as having a past that survives itself in thought and a future that anticipates itself in

[1] *Der Menschliche Weltbegriff*, § 19; *Vierteljahrsschrift*, vol. xix., "Bemerkungen," pp. 2-3, § 121.

[2] *Der Menschliche Weltbegriff*, § 21.

knowledge, and similarly as having spatial limits that may be transcended in imagination and thought. On the other hand, from the relative point of view the tree is considered not in and for itself, but in itself and for me. It is then perceived that my apprehension of it varies together with it. If its branches are bent or broken my perceptions vary accordingly. Further knowledge, however, reveals that the perception depends not only upon the tree but also upon particular parts of the 'self,' namely upon the sense-organs, nerves and brain. Experience reveals these relations of dependence just as it reveals the tree. When the causal series between the tree and the brain-state is not completed, when, for instance, it is interrupted by injury to the nerve-fibres, the self can have no apprehension of the tree. The perception depends, therefore, only mediately on the object, and immediately on changes in the nervous system. And the relative point of view therefore reveals three relations of dependence: (1) between the tree and its perception; (2) between the tree and the nervous system; (3) between the nervous system and the perception. For all three the same formula holds: if the first term be changed the second undergoes corresponding changes. But only in form (2) is the relation causal or physical, and so a special case of the law of the conservation of energy. The two other forms (1 and 3) are logical functional relations.

Much of Avenarius' best work has consisted in developing a new view of the nature both of mental and of physiological processes, and so in restating the parallelist theory in a thoroughly original manner. He was dissatisfied with the use made by the traditional psychology of the distinction between knowing, feeling and willing, and also with the mental atomism of the associationists. The fundamental characteristic of the mental life is, he holds, that it falls into more or less distinguishable series which in their general features are of a fixed and universal type. Each series originates in a feeling of pain, opposition, or uncertainty. The mind then desires or strives or wills to remove this unpleasant experience; and as a consequence the series of mental experiences sooner or later, through complex mental processes or through simple habitual actions, as the case may be, terminates in the feeling of rest, successful action, and certainty. "We feel lightened and exalted, satisfied and freed." Such series, which are repeated as often as mental experience occurs, Avenarius has named 'vital series'.

Avenarius conceives the brain-processes as being of an

exactly analogous character.[1] He makes no assumptions as to their special nature; in particular, he rejects as hypothetical, or at least as needless for his purpose, the picture-mechanism of cells and fibres upon which the associationists rely. His only postulates are that the brain, as a living thing, requires both nourishment and exercise, and that in response to the stimuli of a hostile environment it strives to maintain a 'vital maximum'. Practically, however, he makes the further general assumption that it is capable by internal organisation and outward action of progressively increasing its possible maximum. The ideal maximum would be reached in complete adaptation to an all-comprehensive environment. Physiological processes therefore correspond in type to the mental series. A vital disturbance is either cancelled by other internal changes or removed by a motor response. The stimulus, however, which starts the series need not be, and usually is not, merely injurious. Work is as necessary as nourishment, activity as indispensable as rest. Through response to stimuli the brain organises more and more complex vital series which by enabling it to maintain itself with greater ease in the given environment release energy for more extended activities. In determining, by general dialectical argument, the various types to which such vital series must conform, Avenarius professes to have sketched the programme of future physiological research.

From this point of view Avenarius states the parallelism of psychical and physical in quite a fresh light. He frees the doctrine from dependence upon any particular set of views as to the constitution and working of the nervous system, and yet brings the two series more closely together than had ever been done on any previous theory. Indeed, just on that account he maintains that his view is not properly describable as parallelism. For, while parallelism implies dualism, the relation which he himself traces between the mental and the physiological series is of the same nature as that which exists between the factors in a mathematical function. There is a point for point correspondence which is, he claims, absolutely complete. In this logical functional relation there is no more dualism than exists between the premisses of an argument and the conclusion in which they result.

One very important feature of his position remains for consideration—a feature which is very puzzling to any

[1] When the series are physiological he calls them *independent* vital series, and when mental *dependent* vital series. His reason for this will appear shortly.

reader who seeks to approach it from the point of view of the *Menschliche Weltbegriff*. Petzoldt's suggestion[1] that Avenarius formulated his theory of vital series through examination of mental experience, and then interpreted the brain-processes in the light of such experience, is undoubtedly correct. None the less Avenarius maintains as the fundamental principle of his *Kritik* that the only hope of a scientific treatment of mental experience lies in the development of physiology on the lines which he has sketched. Only through a scientific understanding of the brain in its relation to environment can we acquire knowledge of the ultimate nature of experience as a whole. This part of his philosophy appears to have been formed previous to the views developed in the *Menschliche Weltbegriff*, and to be uncritically based on the scientific teaching prevalent in his day.[2] Being convinced of the closed nature of the physical world, as obedient in all its changes to the principle of the conservation of energy, he asserts as ascertained fact, that consciousness can neither intervene to modify a brain-process nor emerge from it as its effect. In this respect he is a thorough-going parallelist. The body as an automaton conditions the most complex actions in the same complete manner as the merely reflex. All human activity, the highest as well as the lowest, thought as well as bodily action, can on its physiological side be interpreted in the same manner as the reflex functioning of the headless frog.[3] The nature of brain-processes must therefore be determined without any reference to the accompanying mental activities; and as scientific method is limited to the domain marked out by the principle of the conservation of energy, only through this prior determination of the brain-processes can the mental life, which runs a parallel course, be brought within its sphere. The analogies which are established between the cerebral and the mental series co-ordinate them in the closest manner, and in their particular nature are fitted to apply

[1] *Einführung in die Philosophie der reinen Erfahrung*, vol. i., p. 93.

[2] This assertion seems to be justified, though of course Avenarius, like Mach, seeks to vindicate his position by reference to the supreme principle of simplicity or economy (*cf.* Carstanjen in MIND, N.S., vi., p. 466). As everything within the physical world can, he contends, be explained in accordance with the principle of the conservation of energy, the introduction of spirit or any other 'metaphysical' factor is needless and therefore illegitimate. But the belief that the principle is actually sufficient seems to be due to an uncritical extension of results gained in purely physical inquiry to the more complex phenomena of life and consciousness. *Cf. Philosophie als Denken der Welt gemäss dem Prinzip des kleinsten Kraftmasses.*

[3] *Cf. Kritik*, vol. ii., p. 486, note 153.

throughout the whole range of mental experience. The brain of an individual is, in Avenarius' technical phraseology, the '*empiriokritischer Substitutionswert*' of that individual.[1] Since everything which happens to, or is experienced by, the individual is adequately represented by corresponding processes in the brain, the brain can be substituted *functionally* for the individual. Exhaustive knowledge of the one yields completed knowledge of both. Stated in terms of Avenarius' monistic view of experience, this amounts to the assertion that experience in all its concreteness, that is, as mental, varies in exact correspondence with this particular part of itself, and can therefore be explained through it. This is the line of argument developed in the *Kritik*. In the first volume Avenarius analyses the independent vital series, and in the second volume applies his results in explanation of the conscious life.

To revert, now, to Avenarius' distinction between the absolute and the relative points of view. His position requires to be carefully interpreted, and would seem to be as follows. All complete experience involves the relative point of view. Though the absolute standpoint states nothing which is not true, and though in experience we apprehend objects as independent of the self, we never experience them save in relation to the self. The absolute standpoint is therefore reached only by abstraction from complete experience. Further, Avenarius refuses to recognise any such thing as the perception *of* an object. The only reality that can exist is experience, and experience has the two inseparable aspects, inner and outer, psychical and physical, perception and object perceived, thought and object thought about. But to avoid the misleading connotation of these familiar terms, he names the two aspects 'character' and 'content'. To the variable aspect of character belong feeling, perceiving, conjecturing, believing, knowing, etc., the form, whatever it may be, in which we experience anything. As content, on the other hand, he classifies everything which is felt, perceived, conjectured, believed, known, etc. In the relation, character-content, each aspect may vary independently of the other. On the one hand, we may perceive, believe, know, one and the same content; on the other hand, we may take up the same mental attitude to very different things at different periods of our lives. Since experience as character may itself, however, become content of experience, the difference between the two aspects is in the end only relative.

[1] *Der Menschliche Weltbegriff*, § 158.

This distinction of subjective and objective aspects must not be confused with the very different distinction between self and not-self.[1] As character or immediacy is a universal aspect of *everything* experienced, the self and its constituents cannot be experienced more immediately than the not-self. The environment is not given *to* the self. The ego does not find objects before it.[2] The self as well as the not-self is located in space. They are equally objective, and must be apprehended in exactly the same manner as spatially related within the unity of objective experience. The self differs from other contents in space only through its greater richness and manifoldness, especially as regards the interrelations of its thoughts. Though the self is in the same space with its environment, thoughts which have outlived the environment which they previously constituted form one whole with it, and so stand in highly complex spatial and temporal relations to one another and to the environment which is present here and now. These thoughts, however, as has already been pointed out, have the objectivity that belongs to every content, and are therefore experienced in the same manner as any sensible object in space. Everything in the self, and accordingly the self as a whole, is experienced as having the same kind of existence as its spatial environment. Here again, therefore, as in the distinction between characters and contents, there is duality but no dualism. While the opposition of characters and contents is a distinction between aspects inseparably involved in every single experience, the opposition of self and not-self is a distinction of kindred groups of concrete contents within the field of objective experience. Avenarius' view of the self is obviously determined by the same naturalistic intention as that of Hume. But while Hume contends that we can know nothing of the ultimate nature of the self, Avenarius seeks to prove that there is nothing in the self which cannot be known by a possible extension of our present experience.

The brain is experienced as independent in the same sense as "material" bodies.[3] Everything, in fact, which is not character is experienced as permanent existence. Avenarius therefore contrasts the dependent characters with the independent vibrations of the nervous system. The characters

[1] *Cf. Der Menschliche Weltbegriff*, § 138 ff.

[2] *Cf. Der Menschliche Weltbegriff*, § 143 ff.; *Vierteljahrsschrift*, vol. xviii., "Bemerkungen," pp. 145-146, § 22 ff.; pp. 151-152, §§ 40-41; p. 406, § 81.

[3] The brain can itself be brought within the experienced field by opening the skull and making a suitable arrangement of mirrors. *Cf. Der Menschliche Weltbegriff*, § 129.

are dependent not merely in the sense of existing only when and as experienced by the individual, but also as involving the actual existence of the corresponding nervous states in his body at that particular moment. The subject-matter of inquiry remains, however, objective throughout: all we have to do with is, on the one hand, the causal relation of objects to one another and to the nervous system, and on the other the functional relation of states of the nervous system to the complete experience which includes this whole spatial environment with all its causal relations within itself. Throughout we are dealing with reality, and with a reality in which there appears no dualism, and therefore no insoluble problems. The only possible questions are questions which can be solved by a possible extension of experience. Insoluble problems only arise when the true and natural and primitive attitude is departed from, and such departure is in all cases due to that illegitimate process to which Avenarius has given the name, introjection.

But consideration of this falsifying process of introjection I must defer until I have stated more completely Avenarius' own view of reality. To illustrate the truth of his assertion that there is nothing which need lead to radical alteration of pure experience, and that all questions which are insoluble from its point of view are problems which involve illegitimate assumptions, Avenarius takes the following crucial instance.[1] Two individuals, one of whom is red-blind, apprehend an object as being numerically the same for both, and name it cinnabar. They agree that the number of vibrations which it communicates to the ether is such and such. They also agree that these vibrations are independent of their presence or of their apprehension of the cinnabar. But in regard to the colour they differ: the cinnabar is red to one, black to the other. Now, since these statements as to the colour of the cinnabar contradict one another, both cannot be true, and we seem forced to the conclusion that one or both experiences must be false and therefore merely subjective.

As we have already observed, two points of view are possible without desertion of pure experience. From the absolute point of view, each individual describes reality just as he finds it. But since this, as in the above instance, often leads to contradictory assertions, we are frequently forced to reinterpret it in the fuller light of the relative point of view. We preserve the simpler attitude so long as it works; when

[1] *Der Menschliche Weltbegriff* (Anmerkung 58).

it breaks down we correct its conclusions from the more concrete standpoint. Taking into account the relation of the cinnabar to the self we observe that only when the vibrations caused by it affect the nerve-endings, and thereby the brain, do we perceive the coloured cinnabar. Though all observers apprehend the same cinnabar, each apprehends it in relation to a different self, and therefore, it may be, differently. There is, indeed, no fundamental difference between the contradictory perceptions of colour and the varying apprehensions of shape and size at differing distances. In both cases there is difference in the spatial relations and therefore in the causal processes involved. That this difference lies in the one case within the body and in the other case partly outside it is no fundamental difference.

But, it may be urged, this pretended solution is really an admission of the truth of the objection. Throughout the argument spatial arrangement has been assumed to possess a reality that can be accurately defined and which is known as conditioning the apprehension of colour or shape. Since the nature of the vibrations in ether is recognised as constant while the colour is individual, the former alone supplies the means of determining the nature of the cinnabar *as it is in itself*. In a similar manner our knowledge of the actual size of an object enables us to neutralise differences of subjective appearance.

Now there are here involved two distinct questions. First, the more general problem, which of the many qualities of bodies afford the most economical and effective means of scientifically describing them and of determining their causal relations to one another. Science has answered that question by showing how all qualitative differences are best explained by reference to the spatial and quantitative. And that has been achieved through preservation, with the least possible change, of the absolute standpoint of pure experience. The attitude carries with it no assertion as to the reality or unreality of the secondary qualities. The problem of natural science consists in following out to ideal completion (a completion possible only in thought though always in terms of actual experience) of those quantitative relations which are given us as holding between objects in space.

The second problem, that which alone concerns us in this inquiry, is as to the significance of the relative standpoint which in certain cases requires to be adopted even by the scientist, and which constitutes that modification in the absolute standpoint which I have referred to above as being the least possible. Does the relative standpoint imply that

the vibrations which condition colour may be distinguished from colour as reality from appearance, in the same sense in which it may be said that the difference of the white colour of my paper before the perception of a red card from the green colour of the paper after the perception resolves itself into the distinction between a really white and an apparently green object? Such a statement must involve one or other of the three following positions:[1] (1) If the cinnabar communicates a certain rate of vibration to the ether, and the sense-organ stimulated by these vibrations is completely normal, then the cinnabar *is* red; but if the organ is abnormal it *appears* different, for instance, to the red-blind black. (2) If the cinnabar communicates a certain rate of vibration to the ether, it depends on the special nature of the sense-organ whether the cinnabar *appears* red or black. (3) If the cinnabar by means of ether vibrations stimulates our nervous system and thereby causes the sensation of red or black, then these colours, and colours in general, are quite incomparable with their cause, and accordingly are not properties descriptive of the cinnabar as an actually existing thing, but only of its *appearance.*

No one of these three positions is tenable. As regards the first position, the statement that the cinnabar appears but is not black to the red-blind observer is contrary to fact. The statement can only be made by a normal individual who in setting himself at the point of view of the abnormal observer still retains his own. In describing the abnormal as unreal, he illegitimately assumes that difference of standpoint (and that in this case means for Avenarius different constitution of the nervous system) should involve no difference in the content apprehended; in other words, that the object exists out of relation to the self, and that it has a particular nature and colour in and by itself. The second position involves the same fallacy in an aggravated form. The illegitimate interpretation first made by the normal observer of the object of the abnormal observer is, by a further confusion, extended to the object of his own observation. It therefore misrepresents normal perception as completely as the first position misrepresents the abnormal. The third position, while equally untenable, brings the determining assumptions—and they are of course those involved in the process of introjection—more clearly into view. We may, in the first place, note that even if colour is an effect of which ether-vibrations are the cause, that does not justify us in describing it as appear-

[1] *Loc. cit.*, § vii.

ance. An effect is equally real with its cause. Before colour can be described in that way it must be set in opposition to something actual, and that is only possible through introjection. The objects apprehended must be regarded as merely representations in our heads, as effects produced by the real external objects. These external objects will constitute reality: the representations will be mere appearance. It is then only a question of consistency how far this view is to be carried—whether the ether, the object and the whole spatial environment including the brain itself, are not also merely representations in us, or rather representations in the representation of my head ('Vorstellungskopf in meiner Kopfvorstellung').[1]

While still deferring consideration of the process of introjection, the following observations may be made.[2] When it is asserted that an object produces a perception in us, it is assumed that it acts on the sense-organs and brain, and also upon that inner something, soul or consciousness, which introjection adds. What now is meant by 'acting on'? It covers the conception of physical causation. There is a continuous causal relation between the object and the resulting process in the brain. By acting on the brain it causes that process. This causal relation will not, however, carry us from the brain-state to consciousness. For when followed further it only leads back again through the muscles to the external world. The empirical fact that our apprehension of the object varies together with the brain-state has led to the quite illegitimate assumption, for which there is no evidence, that it likewise is an effect caused by the object. We transform the merely logical functional relation, according to which our world as a whole and in all its parts varies together with changes in this particular part of itself, into a causal relation between our world conceived as an effect and the brain as its external cause. We duplicate the one given reality into an external world and its internal representation.

The most, then, we can ever do is simply to describe what we actually find as constituting reality.[3] From the absolute standpoint we describe the object just as it is presented, and from the relative point of view, while considering it as a term in a relation whose other term is the self, we must also still describe it just as it exists for us. In the latter case, however, the observer no longer asserts without limitation 'the cinnabar is red' (or 'is black,' as the case may be), but

[1] *Loc. cit.*, § viii. [2] *Loc. cit.*, §§ ix.-xi. [3] *Loc. cit.*, § xii.

'to my eye, or for me, it is red'.[1] By this limiting addition the contradictions involved in the absolute standpoint are removed. So long as the errors of introjection are avoided, this relativism is perfectly unambiguous, and it is also the only possible or consistent attitude. But when misled by a dualistic distinction between the absolute and the relative, between appearance and reality, we ask: What is the object in and for itself?—we raise an unreal, because self-contradictory, problem. And it does not matter whether in answering that question we take up a positive or an agnostic attitude. The two statements—'The object in and for itself is neither red nor black'; 'The object in and for itself we do not and cannot know'—are alike untenable.

The sole remaining question, properly stated, is not how the brain, viewed as an external and independent reality, is related to consciousness as something distinct from the brain and dependent upon it, but why our experience as a whole should vary together with one particular part of itself. And, as we have seen, Avenarius seems to hold that that problem is on a level with the question, why the three angles of a triangle should vary together with one another. The laws of logical functional relation between experience and the brain, when discovered, are ultimate facts, beyond which nothing remains to be known. Even the suggestion of the problem implies unconscious reminiscence of dualistic metaphysic. In his *Kritik der reinen Erfahrung* Avenarius, as I have also already indicated, has formulated the laws which he conceives as holding between the brain and the world which includes it, that is to say, the laws according to which the brain as a reacting agent either neutralises or uses for its self-maintenance the stimuli which are constantly arising from its own internal changes and from the spatial world within which it lies. In accordance with these laws it progressively adapts itself by internal organisation to a more and more comprehensive environment, and so preserves itself through change in relative equilibrium. And as there is a logical functional relation between the states of the brain and our experience as a whole, these laws express the ultimate truth regarding the self in its relation to reality.

I cannot here enter upon Avenarius' 'physiology of knowledge' beyond indicating in the briefest manner how he applies his biological laws in explanation of experience as a whole. I may cite his theory of protective concepts. When the brain is unable to adapt itself to certain stimuli it drains them

[1] *Loc. cit.*, § xiv.

off through channels (*Schutzformen*) specially organised for the purpose. In so doing it sacrifices energy, not for the sake of increasing its resources, but merely in order, as far as possible, to preserve itself unchanged in this hostile environment. Similarly, when the mind meets with facts which conflict with its dominant concepts, it invents *Beibegriffe*, that is to say, modifies its concepts in such a way as to neutralise the conflict in the simplest possible manner and with the least possible change in its accustomed attitude.[1] The concepts, or attitudes of mind, with which the facts of experience conflict are, according to Avenarius, in all cases ultimately due to that process of introjection which has given rise to the animism of primitive man. The spiritualism which results from the animistic conceptions of the soul and of God leads by its own disintegration, as these conceptions are progressively modified to fit the facts of experience, through agnosticism back to naturalism.[2] But further consideration of this view of animism, the understanding of which, and of Avenarius' view of its relation to introjection, is absolutely essential for a clear conception of his philosophy, I must defer until the next article. Some preliminary criticisms may now, however, be passed upon Avenarius' general position.

Most readers of Avenarius' *Menschliche Weltbegriff* will probably agree that, however convincing as criticism, it is tantalisingly illusive in its positive teaching. So long as we seek to interpret his theory of experience in the form in which it is avowedly presented, namely, as genuinely realistic, it eludes all clear comprehension : its whole meaning seems to be exhausted in negation of the subjectivism which it overthrows. It is only when we translate Avenarius' technical terms into more familiar language that we discover where the real source of the mystification lies. Avenarius

[1] Avenarius' test of truth is the immanent idealist criterion, *viz.*, the degree to which a suggested idea harmonises with the rest of our experience. The statics and dynamics in which this criterion results are described with remarkable subtlety in what is one of the most interesting parts of the *Kritik* (vol. ii., pp. 258-297).

[2] The following concrete instance may be quoted as illustrating Avenarius' view of the transition from spiritualism to agnosticism : "A single inconceivability—as, for instance, in philosophy the relation of divine omniscience to freedom of the human will, or in daily life an undeserved affliction or an unusually terrible death-agony—is 'solved' by reference to the *universal* 'incomprehensibility of God's essence and will' or to the *universal* 'unknowableness' of his providence . . . the same result is attained by substitution of the 'insufficiency and incompetence of the human faculty of reason'" (*Kritik*, vol. ii., p. 281. *Cf.* pp. 296-297).

has diverted attention from the defects of his position by directing his main attack against the very weakness which is fatal to his own theory. Thereby he surprises the reader into admissions which he could never have elicited by direct argument, and which are indeed inconsistent with the central tenets of his philosophy. The general criticism which I shall seek to justify is, therefore, that Avenarius' true metaphysical position appears only in the physiology of the *Kritik*, and that, though his attempt in the *Menschliche Weltbegriff* to defend that crudely realistic position, and to restate it in a tenable form, has resulted in a most interesting and valuable criticism of subjective idealism, that realistic position itself involves the theory which he rejects. Owing to his refusal to recognise any metaphysical distinction between appearance and reality he cannot escape the position which he so successfully attacks. For, though he asserts character and content to be inseparable, in admitting, as he was bound to do, that content can vary independently of character, he relapses into the dualism which cuts off all possibility of escape from the subjectivist *impasse*.

At starting Avenarius formulates as self-evident, requiring no detailed analysis, the far-reaching distinction between character and content; and by a quite illegitimate use of it he establishes that view of the self which is all-important for his naturalistic philosophy. By identifying subjectivity with character he is enabled to treat subjectivity as an aspect that colours, quite indifferently, any and every objective content, and therefore as yielding nothing that can constitute the self as a self-centred reacting agent.[1] This same consequence is reinforced by his classification of such different experiences as feeling, desire or volition, and knowledge, under the general heading of character. The whole problem of the nature of characters and of their relation to contents, the problem, that is to say, of the relation of subject and object to one another, is dismissed in the most casual manner in a few short paragraphs. And having thus assumed the right to treat subjectivity as a universal aspect of all possible experience, he has no great difficulty in establishing a purely naturalistic view of the self as merely one group of concrete contents within the field of objective experience. Throughout the *Kritik*, and indeed in all cases in which he is not directly engaged in defending his monistic view of experience,

[1] Even desires and feelings are *found* or *given* in the same manner as any other experiences. Each has its twofold aspect of character and content. *Cf.* references given above, in note 2, p. 21.

he practically equates the self with the brain. As the brain is an agent that reacts upon its environment and yet at the same time is an object existing in space, it very conveniently combines his two conflicting views of the self—as subject or character when it is felt as active and as self or content when it is experienced as object. In this way he is enabled in the *Kritik* to adopt, from a physiological point of view, that subjective and active standpoint which in his *Menschliche Weltbegriff* he by implication entirely negates.

Throughout the whole discussion the vagueness of the term experience stands him in good stead. Sometimes it means experiencing and at other times the experienced, the latter meaning being emphasised when the nature of the self is in question. These two meanings of the term experience practically coincide with his important distinction between the absolute and the relative standpoints; and these two points of view are not in his philosophy really reconciled. For when he allows as legitimate the demand that experience be ideally completed in thought, he makes an admission which he cannot successfully combine with his assertion that nothing exists save in relation to the self. The ideal completion of given reality which results from the analysis of material bodies into elements which no human senses can apprehend, or from following the earth back to a time when no human being existed upon it, is, strictly, not a completion of experience but only of what is experienced. It completes only one of the two aspects which Avenarius has asserted to be inseparable. It leads us not only to what has not been experienced but to what can never by any possibility be experienced by beings like ourselves. But here again the ambiguities of the term experience come to Avenarius' rescue. He argues that thought is as genuine a form of experience as sense-perception, and so in the end falls back on the time-worn argument of subjective idealism, that thought and reality are inseparable, because reality can only be conceived in thought, and thought involves the presence of the thinker.[1] Not, therefore, any original and profound re-establishment of realism, but only the restatement in its crudest form of the familiar position of subjective idealism is the final outcome of Avenarius' positive speculations. He entirely fails to solve

[1] *Der Menschliche Weltbegriff*, Anmerkung 58, § xiv.; *Vierteljahrsschrift*, vol. xix., "Bemerkungen," note 2 to p. 144. Avenarius' statement of the same argument in materialistic terms (resulting from his equation of the self with the brain) in the "Bemerkungen" (*Vierteljahrsschrift*, vol. xix., pp. 136-143, §§ 176-188) is significant of the opposite, and conflicting, trend of his system. Its idealism is in conflict with the underlying materialism.

the central problem which he so suggestively propounds. There are in his system two objective worlds, and therefore two brains; the world (and also, it may be, the brain) apprehended in sense-experience, and the world, including the brain, as scientifically reconstructed in thought. The first as subjective varies not with the brain as a part of itself but with the brain as scientifically conceived.

Spite of all disclaimers,[1] Avenarius' whole treatment of the relation between consciousness and the brain reveals his secret retention of the extreme parallelist position. In his frequently quoted statement, that the brain is not the seat, organ or supporter, of thought,[2] he rejects the only terms which we possess for defining their connexion. The truth which he seeks to emphasise, namely, that ascription of consciousness to the brain involves confusion of two distinct and contradictory standpoints, is certainly of fundamental importance, but his statement of it is exaggerated, and compares somewhat unfavourably with that which has been given by other writers, as, for instance, by Fechner forty years earlier in his *Zend-Avesta*.[3] Avenarius' own term for describing the connexion holding between mind and body, *viz.*, logical functional relation,[4] is only satisfactory if parallelism expresses the ultimate and complete truth; and at the present time there are many signs that even as a provisional working hypothesis it no longer proves adequate to the needs either of physiological or of psychological research. The formula is also open to the serious objection that it exaggerates the kinship of the two parallel series. Avenarius' contention that the relation holding between them is of the same nature as that between the factors of a mathematical function has no sounder foundation than the quite general analogies derived from his biological interpretation of the vital series. These analogies fail to bridge the gulf which still remains between the purely quantitative attri-

[1] *Cf. Vierteljahrsschrift*, vol. xix., "Bemerkungen," pp. 13-14, §§ 147-148.

[2] "The brain is not the dwelling-place, seat, producer; it is not the instrument or organ, not the supporter or substratum, etc., of thought. Thought is not the inhabitant or commander, not the other half or side, etc., but neither is it a product; it is not even a physiological function, or merely some state of the brain" (*Der Menschliche Weltbegriff*, § 132). *Cf.* "Richard Avenarius" by Carstanjen (translated by H. Bosanquet) in MIND, N.S., vol. vi., p. 472; Taylor, *Elements of Metaphysics*, p. 315.

[3] First edition, vol. i., p. 410 ff.; vol. ii., p. 313 ff. Fechner has given a careful statement of the sense in which such terms as seat, organ, etc., may legitimately be applied to define the relation of consciousness to the brain. *Cf.* vol. ii., p. 345.

[4] *Cf. Vierteljahrsschrift*, vol. xix., "Bemerkungen," pp. 17-18, §§ 153-156.

butes of the brain processes and the qualitative characteristics of the mental life.[1] By his own admissions, too, the relation cannot be a 'logical' one. For if that were its nature, the relation would hold in both directions, and we would not be limited to 'deduction' of the mental from the material, but would likewise be able to reconstruct the brain-processes from our knowledge of mind.

As further evidence that Avenarius' distinction between his own position and that of parallelism is a distinction without a difference, I may quote the passage in the *Bemerkungen*,[2] in which he speaks of subjective experience as "Etwas, das Eines mit dem vorgefundenen Bewegten ist, das unauflöslich mit ihm verbunden ist, wie Form und Stoff, und das auch selbst nie ohne Form und nie ohne Inhalt ist und doch immer in anderen Formen und mit anderen Inhalten und zugleich immer in Uebereinstimmung mit dem Gesetz der Erhaltung der Energie". Though the position expressed in this passage may appear Spinozistic (and Avenarius was of course greatly influenced by Spinoza), it must be borne in mind that his philosophy allows of no metaphysical distinction between appearance and reality, and therefore necessarily remains at the parallelist point of view which Spinoza transcends. In so far as Avenarius' philosophy deserts the parallelist position it must tend towards materialism. A parallelism of the physical and the psychical, conceived as distinct existences and as standing in functional relation, is the final outcome of his metaphysical speculations. That monistic conception of experience which he unfolds in the *Menschliche Weltbegriff*, from which he criticises subjective idealism, and upon which he professes to re-establish a scientific realism, he has failed to reconcile with the naturalistic philosophy of his earlier *Kritik*.

The interest and value of the *Menschliche Weltbegriff* is, however, by no means lessened when we thus recognise its sturdy idealism as being spoken out of the mouth of its convinced opponent. The bankruptcy of materialism is dramatically represented in its whole-hearted welcome of the old gods disguised under strange names. Idealism has found a prophet in the enemy's camp. Further confirmation of this interpretation of Avenarius' philosophy will be gained in the next article from an examination of his theory of the introjectionist argument.

[1] *Cf.* Wundt, *Philosophische Studien*, vol. xiii., p. 356 ff.

[2] *Vierteljahrsschrift*, vol. xviii., p. 154, § 46. For the sake of accuracy I quote it in the German.

(To be concluded.)

III.—PSYCHOLOGY AND PHILOSOPHY OF PLAY (I.).

By W. H. Winch.

I.—Introduction.

I propose to make an attempt to collect, compare, and examine various conceptions of the nature of play.

In Germany, Prof. Groos has devoted two interesting and valuable volumes to the subject, and one condition of this essay was the stimulus of dissent aroused by a consideration of some, at least, of the Professor's views.

Justification for a consideration of this subject on theoretical grounds is hardly needed, and its great practical value to educational theory lends it additional importance. I admit that any one actively engaged in the educational world is prone to conclude that there is very little connexion between the thoughts of thinkers, on the one hand, and the practice of teachers, on the other. This view would be, in some measure, a mistaken one. It is usually indeed a *past* philosophy which has filtered slowly down, and represents the *new* in school theories. But this statement needs some qualification. For example, in a recent conference of the Froebel Society, Prof. Groos was alluded to as regarding 'play' as a necessary practice and preparation for after life—"a view," the speaker went on to say, "which in no wise contradicts Froebel"; he might have said, "which gives a large justification to Froebelian philosophy and methods".

But it is just because I think this conception of play as practice and preparation for the serious duties of life to be but very partially true and to have dangerous applications in educational practice that I am constrained to criticism.

Nor is the opinion concerning the great importance of this question merely an individual one.

We know how acutely difficulties are felt, and how far disaster has proceeded before official reports publish them. It is very significant, therefore, that the Rev. C. D. Du Port,

His Majesty's Chief Inspector for the East Central Division of England, writes[1] :—

"I know cases in which parents have deplored the final ruin of their child's education at its Higher School and for its future life, from its having drunk in as gospel, at a so-called Kindergarten institution, this deadly error, *viz.*, that in a truly human education a child should not be able clearly to distinguish whether it is at work or at play.

"It is not long since an anxious, affectionate, and ambitious parent approached a friend of my own, holding high and responsible position in the world of educators, to consult as to the best educational arrangements to be made for the future of his child, and after much thoughtful conference, the parent broke in with :—

"'But, surely, from all I hear talked of amongst my own friends and acquaintances interested in education there has been a new system brought in lately that makes everything quite easy to the child, and ensures its success at almost no strain or effort. I forget for the moment what my friends called it. Oh! I think the name was "The Potsy Wotsy System"'" (? Pestalozzian).

And in a lecture by Graham Wallas, Chairman of the School Management Committee of the London School Board, on Froebelian Pedagogy[2] occurs a story of an able man, who, when a little boy, objected to his Kindergarten school, because when they worked they did not really work, and when they played they did not really play.

For my own part I have but little doubt that children themselves are rarely deceived, but I am not so sure of the teachers; they lack the inward monitor; and objective criteria of play have been so many and so various that confidence would seem rash.

But the educational issues are so momentous that I plead them as practical justification for this attempt to discuss and define the psychology and philosophy of play.

I am unable to offer much in the way of statistical contribution of definite experiment, but I hold that we cannot wholly wait till all this has been done. Provisional syntheses must be made from time to time.

Just as all men, even those most contemptuous of metaphysics, hold certain ultimate convictions which are metaphysical, and hold them moreover with a blind faith impossible to the metaphysician, so it is not necessary for educationists to study philosophy and psychology in order to hold very

[1] *Board of Education Report*, 1901. [2] *Child Life*, July, 1901.

strongly marked theories on education. On the contrary, such a study tends at least to modify the ferocity with which conflicting theories are held, and to harmonise them by mutual delimitation.

It is extremely rare that the enthusiasm and physical energy of the successful teacher are found in combination with the knowledge and outlook of the synthetic thinker, so that much of the work done in Education has barely more than historical value. As an illustration, let me quote Froebel[1]:—

"Play is the purest, most spiritual activity of man at this stage (childhood) and at the same time typical of human life as a whole of inner hidden natural life in man and all things. It holds the sources of all that is good. The plays of children are the germinal leaves of all later life."

One simply asks: "Is there any justification for the exaggeration of such a passage as this?" And how much of it is intelligible? What is 'human life as a whole of inner hidden natural life in man and all things'? 'Play holds the sources of all that is good,' we are told. Work then, presumably, is a source of evil; at least, no good can be derived from it, for all the good comes from play. But, further on, we find that the 'plays of children are the germinal leaves of *all* later life,' so out of them grows all the evil as well as all the good.

It is time that these mixtures of eloquence and logical inconsistency should be replaced by careful studies of the facts of the problem. In the face of extracts such as these, it is difficult to believe that we mis-read Froebel when we say that he overestimates the utility of play. If the spirit underlying this extract be the spirit of truth we might ask concerning the child, "Is it playing?" And on receiving an affirmative answer, might say joyously: 'Then all is well'. Considerations such as these must be the practical justification for this essay.

It may be of advantage if I give here in outline the general plan of what follows.

First, I discuss the standpoints from which play can be regarded. We should expect, from illustrations in other departments of knowledge, that the classification and definition of the same object, as we call it, would vary according to the purposes of the classification.

Psychology holds to the individualistic view; a playful activity to one person may be a piece of hard work to another.

[1] *Education of Man*, p. 30, Hailmann's translation.

Philosophy asks: How is play to be regarded as a whole in relation to other human activities?

What purpose does it serve in racial progress?

How is its growth related to general biological development?

I have elected to follow common-sense (of a rather intellectualised kind) as roughly mapping out the denotation of the term 'play'.

I discuss the psychology of play, and follow this with some related psychological fundamentals, the misapplication of which has, in my view, done much to support an erroneous play-theory. In this connexion are treated—Perception and Imagination in their bearing on Play, and Play as fictitious Belief. Then, in the consideration of Play in Language and Play as Art, we approach a less individual and more universal view, which, by an easy transition, leads us to some discussion of the philosophical theories of play. And, finally, a short summary indicates suggested conclusions and a few Educational corollaries.

II.—Standpoints from which Definitions of Play have been made.

Just as the classifications of the natural man depend upon the more obvious aspects of things and their purposes in relation to himself, and so differ from the classifications of the man of science, who takes a wider range and names other characteristics essential, so do the classifications of the various sciences themselves differ from each other, so is the same word variously defined according to the standpoint of the survey. We should, therefore, hardly expect that the word 'play' would have escaped the variations which we all tend to make when we pass from one classification to another, from one standpoint to another. Certain activities are currently called 'play' from the standpoint of common-sense, and we shall, at least provisionally, accept the denotation of the term; but with a preliminary caution to ourselves not to be misled. For the application of the term 'play' very often exhibits an instance of the psychologist's fallacy, mostly committed by those who are not psychologists. Acts which would be playful if performed by us are assumed to be playful when performed by others. We need only state the assumption to put ourselves on guard against making it.

It would seem essential that we should distinguish the psychological from the philosophical standpoint. The method of psychology is frequently said to be individualistic. The

occurrences in an individual consciousness are its data. It is not for psychology to concern itself with the objects or purposes except in so far as those objects and purposes are recognised as such by the individual mind. The *philosophy* of play, however, transcends the individual view and aims at connecting play with general conditions, biological and other.

To take an illustration; instinct, psychologically, has no reference to end or purpose; but, philosophically, it is regarded as explained by such a reference. And the play theories which we have to discuss will be found to be philosophical in so far as they obtain an explanation other than that given in the conscious life-history of the individual. Psychologically, a man of genius is playing when his activities neither subserve his life interests nor those of his family or nation; or rather when he so appraises them. It is a commonplace that in the records of the genius nothing is more common than the enormous force of the connate proclivity. He neglects the work allotted to him, he alienates his friends by his abstention from social duties.

> Oh, why did he write poetry who hereto was so civil,
> To sell his soul to vanity, to rhyming and the devil?

It may be urged that social acclaim of some sort is required. So it is, but in the play of children such claim for recognition is not absent. But the genius acts for the community, though often for an ideal one, and philosophically, at least, we must regard much, if not all, of the activity of genius as work. This discussion is very far from being a verbal one, for from the neglect of the distinction many difficulties have arisen. For instance we read[1]: "the essential point in the definition of play is its quality of practice or preparation". But this is not a psychological definition, though it occurs under the heading "Psychology of Play"; for it would be generally admitted that, if the notion that the game was a preparation for an end other than itself entered the mind of the player, he would very soon cease to regard it as play at all. A possible definition from the standpoint of the onlooker it may be, though here I should consider it unsatisfactory, even if play were, in any sense, a preparation; for if play does possess such a quality, youthful educational work, whether of man or animals, possesses it still more abundantly. It would seem rather that such a philosophical definition is by no means identical with possible psychological ones, for the very point of the game to the player is that it is self-sufficing,

[1] *Play of Animals*, Prof. Karl Groos, p. 288.

and not preparatory. I do not suggest that the game is carried on for the activities it involves, but that success in the game is the object aimed at; not activity for its own sake, but the game for its own sake.

Psychologically, omitting, as far as may be, all reference to that larger grasp which impels us to philosophic definition, how shall we characterise play? Where shall we find play in its most easily distinguishable forms? The answer would seem to be, "In its most highly developed forms". And, bearing in mind that 'play' is a correlative term to 'work,' we shall do well to look for the characteristics of play where it is most clearly and consciously distinguished from work.

It remains briefly to touch upon the various philosophical standpoints from which play may be regarded. We may consider it teleologically, as defined by its purpose, considered from the outside, in the same way as we ascribe purpose to instinctive action. Such a view is that of Prof. Groos. The essence of play with him is its quality of practice or preparation.

This view may be compared with the biological one which regards 'play' as a functioning of the immature but ripening organs subserving the life functions of the adult individual.

Sharply contrasted with this doctrine is the recapitulation theory. The work of the fathers becomes the play of the children, and 'play' is rather the exercise of organs tending to relative decline.

This section will have served its purpose if it prevents useless logomachy through a non-recognition of the varying standpoints from which the question is discussed.

III.—Psychology of Play (i.)

Taking the individualistic standpoint proper to psychology it is, I think, commonly agreed:—

1. That those activities are playful which are performed for the sake of the game; we play for the "game" not the "cup".

2. That in so far as the conscious acquisition of skill, either in the game or in anything else, is present, the mental attitude to that extent ceases to be a purely playful one. We talk, for example, of practising and playing the piano, and we mean two distinct things, we practise to play rather than play for practice.

3. That the 'plays' of life are more or less dissociated from the great body of belief and action which make up the conception of our real world; one is belief which is made, the other is make-believe.

So far, there would, I think, be little disagreement, but further specification does bring difficulty.

"If the play of young animals be explained satisfactorily," says Prof. Groos, "then adult play would not offer any difficulty." "All genuine play is at first youthful play."[1] And these statements occur under the heading "Psychology of Play".

Should we not rather place the emphasis on adult play as possessing more clearly than youthful play the characteristics which common consent would regard as implied by the word? Complete and conscious dissociation from the practical needs and work of life is found more clearly in cases of adult play. The struggles of very young children are apt to be very fully charged with the emotional accompaniments of strife; much later does fighting become football, and a high stage of development is attained before a "scrimmage" engenders no ill feeling.

Prof. Groos has himself traced the development of play from the early stages in which, as he says, "subjectively there is no difference between practical activity and this kind of play," and in which "play appears psychologically as quite serious activity".

But if subjectively there is no difference, would it not be better, at least from a psychological standpoint, to refuse the name play to such activities as these? So far from accepting the view that "all genuine play is at first youthful play," I regard youthful play as very much less genuine as play, because more real in other ways. For, psychologically, we must admit that the conscious dissociation between work and play is much more complete in adult life. Play and Work, Fiction and Reality, Imagination and Perception, as the years go by, have their respective scopes more clearly defined and distinguished; we know better which is which.

I am concerned to press my point that psychologically we can best describe play when it is in the most conscious condition, and, as Prof. Groos says, "We often do not know whether even a child is conscious that it is only playing". After all, and the point requires continual emphasis in comparative psychology, when we treat of animal play, or even the play of children, we have to indulge very largely in inferential and analogical conclusions. It is safer to start psychologising concerning the play whose mental accompaniments are more directly known—the play of human adults.

I now propose to follow Prof. Groos in his more strictly psychological distinctions:—

[1] *Play of Animals*, Prof. Karl Groos, p. 287.

1. "The feeling of pleasure that results from the satisfaction of instinct is the primary psychic accompaniment of play." But are we always happy when we are playing? Dr. Lewis Paton tells a story of a boy whom he found crying on Primrose Hill because he had been a Boer three nights running. The game is undertaken for its own sake, not for the sake of the resultant or accompanying pleasure; and impeded progress in the game will indubitably bring pain. The criterion of pleasure is insufficient to mark off play from work. Successful activity, even in what we do not like doing, brings a pleasure of its own. Much of this world's work is pleasurable throughout; and pleasure is not an invariable accompaniment of playful activities.

2. Prof. Groos continues: "And further, energetic action is in itself a source of pleasure".

No doubt, under some circumstances, energetic action may be pleasurable; but all play is not energetic, and much work is.

3. We have "that joy in ability or power which," says Prof. Groos, "has confronted us as the most important psychic feature of play". Certainly, if we are successful at our games, we have the joy which accompanies success, but this joy also accompanies successful work, and frequently to a far greater extent. Probably the view that play is distinguished from work only as a preliminary practice or preparation may have had some effect in obscuring the antithesis between the two, for the criteria of 'play' given above do not seem to me to mark it off from other activities with which it is usually contrasted.

It is, of course, possible to regard all early activities as 'play,' but to do so would be to break violently with common sense and almost wholly to neglect its denotation. There is a difficulty, however, beyond that of selection and definition, if we approach the question from the animal side. In early animal activities, how are we to mark off play from the serious activities of life? Some day, perhaps, when the exact part played by tradition and education among the lower animals has been more fully dealt with, it may be possible to mark off the spontaneous and the playful from the taught, but it is hardly so to-day.

IV.—Psychology of Play—Perception and Imagination.

The place of imagination in early play has, I think, been greatly overestimated; the term 'imagination' has been

applied to psychological operations where it is not really operative.

As the development and function of imagination still form a subject of dispute among psychologists, it may be well to attempt to approach the matter in such a way as may account for the differences.

We tend to consider 'sensation' as dependent wholly upon external objects, and this attitude tends to resolve differences in our perceptive judgments into differences due to factors derived from imagination. If you see what I do not see, you have imagined something which is not there, is too frequently our unspoken attitude.

But 'sensation' itself is not the fixed absolute which this form of Realist philosophy requires. Not only are perceptive judgments likely to be erroneous,—well-known daily illusions serve sufficiently to demonstrate that,—but comparative psychology refuses to allow the fixity of the atomic elements even when uncompounded.

Consider, for example, the perception of colour among different peoples at different periods. The colour sense of ancient races, Homer's Greeks to wit, and of existing primitive races is extremely defective. Observations on children show how gradually developed colour vision is. But what I am especially concerned to note is the kind of argument which is resorted to by those who take the opposite view. In the Acropolis at Athens we find a blue bull, a blue horse, a man with blue hair (probably 600 B.C.), and it is argued that these decorative instances demonstrate the appreciation of blue, notwithstanding the defect in nomenclature for blue. It is so hard to believe that the sensations of other people from the same object may be different from ours. Yet surely, the difficulty ceases if we suppose that the artist could not distinguish 'blue' from 'black,' this lack of distinction being now found among primitive people who can neither appreciate the distinction when these colours are presented to them, nor possess the terms of distinction in their language.[1]

The bearing of this discussion on the function of imagination in play may seem remote, but I will endeavour to establish the connexion. Just as we are strongly disposed to think that the savage sees what we see, so with the child at play; we interpret his wild percepts with the aid of the following presuppositions:—

i. That the child receives the same sensations as we do.

[1] *Report of Cambridge Expedition to Torres Straits*, vol. ii.

ii. That the child knows the object to be what we know it to be, though perhaps he cannot name it.

iii. That it prefers to call the object something else and holds an imaginary object in antithesis to a presented one. I believe these presuppositions to be misleading, and, probably, stating them in this way, I may obtain a fairly general agreement. But it remains to be shown that competent thinkers approximate in any way to the presuppositions condemned. Prof. Sully[1] says :—

"Yet it is no less true that imagination in an active constructive form takes part in the very making of what we call sense-experience".

"We read the visual symbol, say a splash of light or colour, now as a stone, now as a pool of water, just because imagination drawing from past experience supplies the interpretation, the group of qualities which compose a hard, solid mass or a soft yielding liquid."

This is exactly what we should expect on the Professor's view, for he holds perception to be invariably a compound of sensation and ideation. But is it justifiable? Must we not suppose that perceptual cognition is prior to imagination? And are not many of the play perceptions of children the result of sheer lack of distinction? Their names for things we often laugh at, it is true; but in many cases, perhaps in most, they represent a quite serious activity.

Prof. Sully further notes that many children possess coloured hearing. This he explains in the same way[2] :—

"Children's coloured hearing is worth noting as the most striking example of the general tendency to overlay impressions of the senses with vivid images. It seems reasonable to suppose that coloured hearing and other allied phenomena, as the picturing of numbers, days of the week, etc., in a certain scheme or diagrammatic arrangement, when they show themselves after childhood, are to be viewed as survivals of early and fanciful brain-work. This fact, taken along with the known vividness of the images in coloured hearing, which, in certain cases, approximate to sense-perceptions, seems to me to confirm the view here put forth, that children's imagination may alter the world of sense in ways which it is hard for our older and stiff-jointed minds to follow."

It is we adults who are stiff-jointed; and the epithet has a striking applicability, for the contents of our minds have precisely that character of separation and articulation which the word "jointed" so well expresses. We may hope that the

[1] *Studies in Childhood*, p. 29. [2] *Ibid.*, p. 34.

term "stiff" is not so universally applicable. How do we differ from the child? His mind, we find from this extract, confuses imagination with perception, image with sensation, and possesses more intimate connexions than ours between some, at least, of the senses. Let us note the "vividness of the images in coloured hearing which, in certain cases, approximate to sense-perceptions". Now, without any serious dispute as to the facts, let us ask what interpretation we can give which will enable us to systematise them. Can we do so on an association basis at all? On this explanation we have sense elements which become compounded subsequently. But colour and hearing are now compounded by the child, though later they will be disjoined. We have again, still on the associationist method, perception compounded of image and sensation; vivid images, it is said, which are confounded with sensations.

Would not the facts be better explained by supposing that the sensational centres at this stage are not so differentiated and specialised? Why not suppose that the sound stimulus has a direct effect upon colour vision, without the intervention of images at all? I venture to suggest that this conception accords better with our notions of biological development than the diminished-adult view of early life. Imagination, at the outset, remains almost indistinguishable from sensation, and only gradually acquires its own proper nature. "Imagination drawing from past experience supplies the interpretation" of a new sense experience. Our own experience doubtless supplies us with many such instances; but have we no interpretations of new sense-experiences prior to imagination altogether? And after its development, to perceive the relatively new is easier to us than to image the past which helps us to interpret it.

The point is that the elements of the sensational complex modify each other. A valuable illustration of this position is found in the way in which names are regarded. Shakespeare may say:—

> What's in a name?
> A rose by any other name would smell as sweet.

But savages, children, and successful advertisers think differently. The great importance attached to the name by primitive minds was first brought to my notice by a street altercation in a London slum between two boys about eight years of age. One had dropped a paper on which he had been writing at school. His antagonist, leaving the point at issue, ejaculated: "Yah, I've picked up your writing paper"

This left the second boy unmoved. "It's got your name on." Complete defeat and a burst of tears. It was some years after this that I found how wide-spread is this superstition of the name.

Imagination will not help in the explanation. There is no preliminary question, such as, What can he do if he does know my name? with a picturing of possible consequences. The connexion is immediate, and antecedent to all experience which would logically give rise to it. There is here, as before, a complex which added experience dissociates. The name is a sound percept bound up in temporal contiguity to sight and smell and touch percepts, and is held to be equally a part of the "thing". Primitive peoples resemble children in this respect. "Name giving was an important event in the child's life. Like other nations of antiquity, the Babylonians conformed the name with the person who bore it; it not only represented him, but in a sense was actually himself." [1]

Nor need we spend long over such allied forms of magic as are exhibited in our own occasional violence to images and portraits. The point to note is that, as these beliefs die down, they die hard and linger on as play. The lover carving or writing his beloved's name or rapturously kissing her photograph does not now believe in cold blood that he is thereby advancing his suit. The functioning has lingered on as play. The explanation I suggest is not a vivid imagination, but imperfect dissociation of the elements of the sensational complex.

V.—Psychology of Play—Reality and Fiction.

"Nothing," says Prof. Sully, "seems more to characterise the 'Childhood of the World' than the myth-making impulse which by an overflow of fancy seeks to hide the meagreness of knowledge." [2]

It is instructive to note how the mental attitude which is illustrated by the above extract is being undermined in other departments of thought. The historical school, to which the characters of early history were a series of mental syntheses personified by the imagination, is now discredited. Lycurgus, Moses, fancied persons postulated as hypothetical causes, are to-day rehabilitated and invested again with the penalties of flesh. In anthropological research similar conclusions are being arrived at, and much may be hoped from

[1] *Babylonians and Assyrians*, Prof. Sayce, p. 44.
[2] *Studies in Childhood*, p. 25.

a future union of anthropology and history. In vague and uncritical anthropology it was customary to read of the marvellous imagination of primitive peoples. Their real world seems indeed, at first sight, to be but a wild play of fancy, their art the wilful perversion of what they see, their religion a grotesque medley of superstitions. First, as to their world of reality. It is a truism to say that "reality," though apparently a very rigid expression, is not so. Even the realities of the natural scientist depend upon his hypotheses, and also, as with all of us, depend upon the degree of consistency within a system. Now "primitive beliefs," says Dr. Stout, "are nearly all relevant to the narrow circle of immediate practical interests within which the activities of the savage are confined".[1] "Any association between A and B, through which the idea of A vividly and insistently calls up the idea of B, may lead to a belief in a real connexion between them. If in a fit of anger we trample on a man's portrait, it is difficult for the moment to avoid believing that we are by the act doing the man himself a direct injury. The savage has a real and permanent belief that men can be injured in such ways. He thinks, for instance, that by destroying a man's footprints he can spoil his journey or make him lame." We can also connect with this the superstitious regard for names felt by savages, children, and the populace, who, a year or so ago, were killing "Kruger with their mouths". It is not, I may perhaps be permitted to repeat, imagination which pretends a connexion in which it does not believe, for this connexion is primary and antecedent to imagination. On the contrary, when imagination and perception are differentiated, such connexions are on the way to dissolution. There intervenes a stage in which dissociation detaches what we afterwards call superstitions from the main body of belief, and these superstitions, with varying emotional conviction on our part, cease to be real and become play, fiction, and art.

Any one in the least accustomed to continuous introspection can verify the above process by instances from his own mental life, and modern anthropology supports this psychological view. Speaking of primitive societies, Mr. Hartland says[2]: "But we must of all things beware of crediting the story-teller with that degree of conscious art which is only possible in an advanced culture and under literary influences. Indeed the researches which are constantly extending the history of human civilisation into a remoter and remoter

[1] *Manual of Psychology*, p. 551. [2] *Science of Fairy Tales*, p. 3.

past go everywhere to show that story-telling is an inevitable and wholly unconscious growth probably arising out of narratives *believed to record actual events*" (italics mine). And we may compare with this the words of Dr. Stout[1]: "Hence what may be a transient play of imagination in the civilised mind is the permanent and serious attitude of the savage mind".

These primitive beliefs are also found in children, and are not relevant to the practical activities of life in which they will be required to engage. Such beliefs seem to me so far from being a "preparation" for later and serious views of life, that the very task of consciously directed education is to break them down, working, of course, along the lines of least resistance, entering into them to destroy them.

And how far are our own fictional utterances the expression of more primitive views of life? Is not the ethic of our most widely read novels still very like that of Jane Austen in whose works "the problem of the hero was to get an income somehow without doing anything to earn it; and that of the heroine to combine disinterested love with a good final settlement"? "Originally (this ideal) was universal either in the shape of the prince motive or in that of the young man who comes into a fortune. We have it in our best literature as late as Thackeray's *Philip* and it is still prevalent in the worse."[2]

Even a cursory perusal of our Family Heralds and Novelettes reveals the same general features, and this is the playful pabulum of thousands whose adjustment to practical life takes place in defiance of their fictional predilections.

I am aware that such argument may appear to be met by quoting the fiction, drama and poetry which follow the light that never was on sea or land, the ideal state, the problem play, the poem which suggests a future beauty rather than a past.

But such efforts are usually regarded by the great mass of our people with absolute indifference, and even those who support them would scarcely regard it as complimentary if you described their interest as a playful one. Moreover there is not the same detachment from the great mass of belief which marks play properly so called.

Such things may be ideal, but the ideal is there for real purposes, not art for art's sake, as the phrase goes, but art for the improvement of reality.

[1] *Manual of Psychology*, p. 559.
[2] *English Humanists*, J. M. Robertson, p. 3.

VI.—Psychology of Play—Play in Language.

One problem to be considered is whether, when using language for play purposes, there is a tendency for us to use atavistic forms and bygone grammatical relations.

A second question relates to the normal development of speech. As the appropriate organic structures develop in the child, so he begins to make his babblements more and more articulate and human. How far will such spontaneity and inventiveness develop a serviceable language? I only propose now to offer a few observations under these heads.

1. Is play language atavistic?

I think we shall be disposed to answer this question in the affirmative. In language used when playing we find just such interjectional utterance and absence of grammatical construction and distinction as we find lower down in the evolutionary scale of language. We have most of us experienced the delightful babyisms of the lover when playing at love; and the grammatical constructions of people who "talk for talking's sake" show many primitive marks. The difficulty of applying this schema throughout lies in the existence of good artistic literature; though even here the greatest æsthetic satisfaction is often obtained by archaic forms and words unvulgarised by contact with the work-a-day needs of life.

Milton's "Vallombrosa" and the old lady's "Mesopotamia" have a charm for most of us in our æsthetic moments, though, in the world of work, they would be rather long-winded geographical names which we should endeavour to localise in an ordnance survey map.

Beautiful prose and poetry, which we read, as we say significantly, for relaxation, are developed for their own sake, and not as instruments of intellectual precision.

I can do no more than refer to the quaint incomprehensibilities of the language which children employ in their concerted games. The phrase just now occurs to me, "Ena, dena, dina, dust," which commences some incantation, and will, I suppose, remain a mystery till we trace its genesis in the past.

The average adult when at play, however, is not so very far removed from the child. Most of us can remember when *Ta-ra-ra-boom-de-ay* brought emotional satisfaction to many whom Browning will never reach, and how *Hi-tiddle-de-hi-ti-hi-ti-hi* with its faint echo of Greek rowdyism, proved that echolalia was not confined to the minor poet.

2. To what extent will children acquire language spontaneously and by play?

I have in previous essays [1] argued that the rude analogical method by which children apply names should not be encouraged by perpetuating their errors. Individualism is so strong to-day in educational theory that we often find a dangerous approximation to the view that every child should invent his own language. I am loth to appear to condemn any method which, by insisting on the activity of the child itself, has done so much to put an end to the one-person-talking-about-what-the-other-does-not-understand method of teaching; but I have for some time objected to the purposely false nomenclature which the advocates of this system enjoin. Perhaps in view of its educational importance I may be permitted a digression. Two cubes side by side do not resemble a table, and when you put a third cube on one of the others you have not built a very obvious chair. In a school in the Midlands which I visited in 1897, the children in the Kindergarten class, having just made the table and chair, did not know which was which. So that even the spontaneous application of the name was wanting, and the theoretical basis of the method was not complied with. The fact is, these Kindergarten names are very rarely spontaneously applied, and when their use is insisted on in the class, the names do not remain associated with the Kindergarten object, but, in spite of their school training, the children apply the terms to the objects of daily life. To give one instance. An excellent Kindergarten teacher, who had, I am sure, taken care that every little child in her class had frequently manipulated Kindergarten 'bricks' and 'sticks,' was introducing a new occupation by letting the children repeat—

> What are we going to do to-day?
> Not bricks to build or sticks to lay—

My questions received answers which showed :—

i. That the word "bricks," where it meant anything to the children, referred to the real bricks of the school wall.

ii. That the word "stick" had reference to the sticks they played with *out* of school; one chubby little urchin producing a formidable and knotted specimen from under his waistcoat, and brandishing it triumphantly.

We may, I think, without hesitation, condemn such a system of teaching language. Firstly, it pretends to a spontaneity which it does not possess, and, secondly, the conventions which it adopts are really a hindrance to learning the actual language of life.

[1] *Problems in Education.*

In general accord with the above contentions are the observations of Dr. Lukens[1]:—

"Play-in-language (inventive language)." "This inventive stage may degenerate into the silliest, emptiest nonsense, holding the child back in his progress, and injuring his development permanently if it be so far encouraged by parents and others through adopting and using the babyish nonsense themselves, or even by recognising it and letting the child see that it will pass as language. An unfortunate infant brought up under the tutelage of such a georgy-porgy, wheely-peely, baby-talk mother, called a dog a *waggy;* a cow, a *horny;* a horse, a *haha;* a nut, a *cacker;* his nurse, *bow-wow;* and a banana, a *parson;* and kept it up till he was four years of age."

VII.—Psychology of Play—Play as Art.

The close connexion of art with the play impulse has long been recognised, and some consideration of the development of art may help us in the discussion of the latter.

Prof. Haddon writes[2]: "The vast bulk of artistic expression owes its birth to realism, the representations were meant to be lifelike, or to suggest real objects; that they may not have been so was owing to the apathy or incapacity of the artist or to the unsuitability of his materials".

And again with reference to Papuan drawings[3]: "The mouth is represented in a sucker-fish as being on the upper side of the head, whereas it should be underneath, and the view there drawn of that fish's tail would be impossible from that particular point of view, but these and numerous other similar examples which I could name are merely due to a desire to express several salient features, without regard to the possibility of their being all seen at once".

And an investigation of children's drawings leads to similar conclusions.

But as we meet in the interpretation of these drawings with the same sort of diminished-adult view of child-psychology which I believe to be misleading, I trust I may be permitted a more extended reference to this point.

It is well known that children will often insert two eyes in a profile sketch, or show two arms when only one can be seen. Ricci says the second arm is supposed to be seen through the body.[4] This may mean that the child imagines

[1] *The Child*, A. F. Chamberlain, p. 442.
[2] *Evolution in Art*, p. 7. [3] *Ibid.*, p. 165.
[4] *Studies in Childhood*, Prof. Sully, p. 363.

he can see it though he knows he cannot, or that he simply mixes up, or rather fails to separate, what he knows from what he sees. I take it that the first solution is not a correct account of the child's mental state, and that the second is much nearer the truth. Yet I think it is the former that must be given on associationist principles, and the old difficulties arise concerning the relations between perception and imagination, which have been already dealt with. Again, as Prof. Sully points out, the child when left to himself is "for the most part oblivious of dress".[1] "Even when he grows sophisticated and attempts clothes, he still shows his primitive respect for the natural frame. A well-known anthropologist tells me that his little boy on watching his mother draw a lady insisted on her putting in the legs before shading in the petticoats." In General Pitt-Rivers' collection there is a drawing by a boy of ten which, in clothing the figure, naïvely indicates the limbs through the covering. This agrees with what Von Steinen tells us of the way the Brazilian Indians drew him and his companions.

I venture to reiterate the explanation suggested above, when dealing with Perception and Imagination. These are not cases of vivid imagination overlaying or underlying certain actual sight sensations. The object seen is a complex resulting from past sensations, both tactual and visual, as well as from the present sensation. The child knows the object to be such and such, and draws what he knows and not what he sees, or images. The purity and truth of early perception is a myth which has been fostered:—

1. By supposing that children see what we see without our temptations to error.

2. By the physical explanation of vision which gives the same retinal image for all.

3. By the need of philosophy for some unchanging mental element common to all.

I was first led to the opinions expressed above by teaching model drawing to a class of boys about ten and eleven years of age. At this age one might have supposed that the dissociation of the present sensation from the rest of the complex, which is the object perceived, would have gone a long way. But what are the facts? The outstanding conclusion is that the child must laboriously be taught to distinguish what he sees from what he knows.

Suppose he can see three faces of a cube, he may draw you four without the least compunction. And if you want to

[1] *Studies in Childhood*, Prof. Sully, p. 371.

demonstrate to him that he cannot see four, you will need to direct his attention point by point and line by line before you succeed. Above all, the youthful draughtsman refuses persistently to narrow down the top of the cube to what he sees, using the term in our sense. It swells up in huge proportions, and the boy's justification is "the top *is* as big as that". So it is, and again you have to work to the thing as seen and not as known.

Again, he sometimes puts in the back edge of the solid cube which he cannot see, and rejoices in the completeness of his drawing. Some pains will be required to show him that he cannot see it, and his justification again is that it is really there.

Nor is the unsophisticated adult very much better. A colleague of my own was fond of putting the question, "Draw from memory what a brick looks like". To the non-psychological the result seems disastrously unexpected. A central oblong with four faces attached, showing one above, one below, one to the right, and one to the left, was far from an uncommon answer.

And, when we pass from such glaring errors to the estimation of the relative slopes of the perceived lines, we enter on a task which the most able teachers know to be extremely arduous.

Indeed, to isolate the sensational contribution to a given perception is very truly the last stage of a long and gradual process. We must be taught to see. The philosophical bearing of this is obvious and important, but my immediate interest lies in the psychological aspect purely.

Prof. Sully, for whose work on children's drawings I should like to express my delighted thanks, seems to hold a view with which my own, I fear, is quite inconsistent. He believes, I think, that inaccuracies of the sort I have indicated arise from want of motor co-ordination. The visual image is correct, but the child cannot draw his image; he has not sufficient power over his movements. This seems to me Prof. Sully's meaning, but I will quote the exact words[1]: "He (the child) may have the visual image of the human face or the horse which he wishes to depict. This power of visualising shows itself in other ways and can be independently tested, as by asking a child to describe the object verbally. But he has as yet no inkling of how to reproduce his image. That his inability *at the outset* (italics mine) is due to a want of co-ordination is seen in the fact

[1] *Studies in Childhood*, p. 387.

that at this stage he cannot draw even when a model is before his eyes."

May I suggest the following objections?—

1. That the image is a later product than is here implied.

2. That verbal description is no evidence of visual imagery. The child describes "the object," be it noted, not what he would see on a particular view; and how many of us can give excellent verbal descriptions who have no imagery at all?

3. That the young child does not try to reproduce his image if he have one, but draws certain salient characteristics which he knows to co-exist in the same object, being indifferent to their co-existence in the same view.

4. That the fact that he cannot draw what he sees "even when the model is before his eyes" is not necessarily due to lack of co-ordination. This appears from the kind of errors which are made. There comes a stage, I admit, when a clear visual image or visual sensation enables us again and again to practise much erasure for the purpose of getting our drawing to coincide with our copy, but this is certainly not "*at the outset*". Does a child put two eyes on one side of a face because he cannot draw in accordance with a visual image which has one eye? Does he draw a fire in Jack's house when Jack is in the oven because his hand will not execute what his eye pictures?[1] The child probably has no visual image of a horse, a face, a brick in this sense at all. Even when he has attained to images, they are probably, at first, broken scraps, disproportioned, non-synchronous, irrationally and impossibly linked into what is the merest parody of a visual whole. The difficulties in interpretation seem to me to be overcome by the following view, *viz.*, that early drawing is of objects as known, not of synchronously perceived aspects of objects, nor of images; and that the power to see is the result of a long and difficult analytical process.

We find then in children's spontaneous drawings the same general characteristics as in their inventive language.

It may be well to repeat the question which we asked in that connexion. To what extent will children learn drawing spontaneously and by play?

A system of reading lately introduced into several infant schools prescribes that, after a story or reading, the little ones shall draw, without their teacher's help, anything they can in connexion with the story. I have seen hundreds of these drawings and am in hearty agreement with Prof. Sully as to the non-progressiveness of this play-drawing.

[1] See *Studies in Children's Drawings*, Prof. Earl Barnes.

"In the case of the rougher and less sophisticated class of children it appears to be a general rule that the draughtsman settles down to some one habitual way of drawing the human face and figure."[1]

And in the Annual Report of the Inspectors of the London School Board (1901), teachers were advised not to rely on such exercises in the hope that they would suffice for the teaching of drawing.

[1] *Studies in Childhood*, p. 367.

(*To be concluded.*)

IV.—PRESENTATION AND REPRESENTATION.

By Henry Rutgers Marshall.

I.

Sec. 1. No careful reader of the works of modern philosophers and psychologists can be unfamiliar with the notion that each presentation is new and unique. Thus we read in Mr. Shadworth Hodgson's *Metaphysic of Experience*[1]: "It is a mere common blunder, caused by looseness of commonsense thought, to suppose that one and the same experience is ever recalled or repeated. A numerical identity of two experiences, one past and the other present, is a self-contradiction: an event of any kind once gone is gone for ever. But neither is their identity in point of content complete. Similarity of content, between two or more experiences, so great as to render them indistinguishable except by the place which, owing to their context, they are perceived to occupy in a single series of experiences, is the utmost that can be meant by calling them identical." So we find Dr. William James[2] holding that "no state once gone can recur and be identical with what it was before. Every thought we have of a given fact is, strictly speaking, unique, and only bears a resemblance of kind with our other thoughts of the same fact. When the identical fact recurs, we *must* think of it in a fresh manner, see it under a somewhat different angle, apprehend it in different relations from those in which it last appeared."

Few psychologists to-day would fail to agree to the truth of these assertions, but, as will presently appear, there is no general acknowledgment of a thesis which is a corollary of these statements; *viz.*, that in its very nature each presentation to a given Self in each moment is necessarily a new form of presentation.

Sec. 2. This view is strongly corroborated if we agree that there is a thoroughgoing correspondence between our

[1] Vol. i., p. 166. [2] *Psychology*, i., p. 230 ff.

conscious states and the activities of our complex nervous system; and I shall ask the reader to consider for a moment the evidence derived from this source.

It is perhaps possible for the physicist, who assumes the indestructibility of physical atoms, to hold that a given atom, or a given molecule formed of atoms, may in two different moments be one and the same in all respects and under all conditions, although it is to be noted that he is unable to prove his assertion empirically, and is somewhat hesitant nowadays in his defence of the validity of this conception. But when we consider such inorganic masses as we are able to study with care we note that as the constitution of these masses becomes more and more complex, the return to their original condition after a reaction of any kind becomes more and more unlikely; for the reason that the primary reaction then involves a readjustment of many relations; and in consequence a return to the original condition involves a physical impulse, or series of impulses, which shall restore all of these many relations at the same moment. Thus the evaporation of water from a body of sand leaves it dry, and free to be blown by the wind out of its original position; and the shifting sand may divert the course of some little streamlet, which in its turn may cause many changes in the surface of the ground. To replace all of these changed parts of the comparatively simple inorganic masses which are here considered would evidently be impossible without a very complex set of influences which are not likely to occur coincidently.

It thus appears that, even with inorganic matter of a relative simplicity of constitution, it is very difficult for us to conceive of exact recurrences of form and conditions in any two successive moments: and in the fact that we look for different reactions in the two moments we really tacitly assume that each bit of inorganic matter which can be observed is necessarily a different bit of matter, and not the same, before and after it has received, and has reacted to, an impulse of any kind which it has received from its environment.

When we turn to the consideration of living matter we find the conditions of complication immensely increased. The very simplest bit of living matter is very complex in relation to any inorganic matter such as we have considered in our previous illustrations: and the nervous system of man in which the psychologist takes a special interest is a special kind of living matter of an extraordinarily complex nature, and with its parts bound together in a system of immensely complex minor systems.

In such a piece of matter as the nervous system of man, any special reaction in any part, however small it be, to any impulse whatever, must disturb an immense number of relations which can only be restored by a very special set of physical impulses bearing inherent relations to one another of enormous complexity ; and the probability of the appearance of such a special set of physical impulses is evidently so exceedingly small, that it may well be held that no such appearance is possible.

We of course must not overlook the fact, however, that the most marked distinction between living matter and non-living matter is this : that while on the one hand complex inorganic masses after reaction to a physical impulse do not often even appear to regain their original form, on the other hand organic masses after reaction to a physical impulse do seem to regain the form which appeared before the reaction, and this by processes which seem to be inherent in themselves, and not determined by the occurrence of new impulses in their environment. But in consideration of the facts above presented we find it very difficult to see how this recovery of its first condition can really be entirely complete, and we are led to suspect that, although the nature of living matter is such that it of itself tends to regain after a reaction what appears to be something very close to its condition as it existed before the reaction, nevertheless this appearance of identity of condition must necessarily be due to an illusion determined by our weakness of observation. Evidence that recovery of its condition after a reaction is never exactly complete is given in the fact that living matter, more or less gradually, but none the less surely, changes in form and in structure ; as is seen in the fact that it grows old and finally dies. We are led therefore to assume that some slight, even if it be unobservable, change is made in the structure of each bit of living matter, and in the relation of its parts, in connexion with each of its reactions ; so that in reality after each reaction it no longer remains the same bit of living matter, capable of becoming what it was before its reaction ; but rather that after each reaction, however slight, it becomes a bit of living matter of a new form.

In the complex nervous system of man we have innumerable bits of living matter all closely related, and we are therefore compelled to accept the view that the form and structure of the parts, and of the whole, of the nervous system must change with each reaction.[1]

[1] In the organic systems of the highest grade of complexity this change of the organism as a whole is masked probably by a replacement of cell

As Dr. James [1] says, our studies teach "us to believe, that whilst we think, our brain changes; and that, like the aurora borealis, its whole internal equilibrium shifts with every pulse of change. The precise nature of the shifting at a given moment is a product of many factors. The accidental state of local nutrition or blood-supply may be among them. But just as one of them certainly is the influence of outward objects on the sense-organs during the moment, so is another certainly the very special susceptibility in which the organ has been left at that moment by all it has gone through in the past. Every brain-state is partly determined by the nature of this entire past succession. Alter the latter in part, and the brain-state must be somewhat different. Each present brain-state is a record in which the eye of Omniscience might read all the foregone history of its owner. It is out of the question, then, that any total brain-state should identically recur. Something like it may recur; but to suppose it to recur would be equivalent to the absurd admission that all the states that had intervened between its two appearances had been pure non-entities, and that the organ after their passage was exactly as it was before."

Now if all this be true, and if it also be true that each presentation is the correspondent of a pulse of activity in a nervous system, then it is evidently true also that each particular presentation is in itself a perfectly new presenta-

parts which have become senile, by others which are new-born, if we may so speak, and therefore more vigorous; and which may take up the work which the dying cells are laying down. There is evidence, which is seen in all complex organisms taken as wholes, that such new cells do come into being in the process of growth, and that they do die in the process of senile decay. That this process does go on in a general way during the life of the organism as a whole seems to be evidenced in the observable repair of the so-called "vulgar tissues," and of the superficial parts of the body; and it probably could be traced, had we proper means of observation, in the more delicate cell parts of the nervous system in which we are here especially interested. This latter point is, however, of course problematical.

I mention this point because, under such an hypothesis of substitution we might conceive of a readjustment which would enable the complex nervous system to retain a structure capable of reacting again to a stimulus exactly as it did after the primary reaction, so that it could not then be said that in all cases the system at the time of each reaction is structurally a new system. But even this supposition does not prove to suffice us; for it must be remembered that each new-born cell is a cell of a longer line of inheritance than those from which it derives its life; and that the influences which give it its special structure must therefore in some indefinitely small measure differ from those which have influenced those cells from which it is derived.

[1] *Op. cit.*, i., p. 234.

tion; and this notwithstanding the fact that the differences between successive presentations in the same person may altogether escape our observation.

Sec. 3. If however we accept this view without further consideration we overlook one very important fact of experience which on its face seems to stand in opposition to our position.

We constantly speak, not only in every-day conversation, but also in careful philosophical discussion, of the existence of *representations;* and we use this term as though it were a matter of common agreement that the mental states referred to are not in each case new presentations, but are duplications of former presentations of which we have an unchanged record—a record with which we compare the so-called representations, and with which we in a measure identify them.

Nor is this merely a matter of the careless use of words. It is clear that the founders and earlier expounders of the Associationist school tacitly assumed such permanence of presentations; and that the Herbartians did so explicitly. If our contentions are valid we are then surely called upon to explain the nature of these so-called representations as a certain type of new and unique presentations.

The common assumption of psychologists, the validity of which is thus questioned, is *au fond* the same as one which is involved in the view of the associationists who held that images and ideas are of a sensational type, being copies in some sense of real sensational experiences, or developments of such copies. This being the case it will be well to begin our study of the problem before us with a consideration of the general nature of images and ideas as these are distinguished from sensational impressions.

II. Of Primary and Secondary Presentations.

Sec. 4. "The sensations which we have through the medium of the senses exist only by the presence of the object and cease upon its absence." "When our sensations cease, by the absence of their objects—something remains," —"It is not the sensation, but something different from the sensation, yet more like the sensation than anything else can be; so like that you call it a copy, an image, of the sensation, sometimes a representation or trace of the sensation." "Another name for this is Idea." With these words James Mill opens the second chapter of his *Analysis*, thus clearly presenting the broad distinction between Impressions

or Sensations on the one hand, and Images or Ideas on the other; and does not hesitate to state that the latter are in some sense copies of the former.

This is a view which was of course not original with the elder Mill, but it was brought into prominence by him and was held by his followers without any thoroughly critical examination; and it is a view which is subscribed to, although somewhat hesitatingly, by many psychologists to this day. Hume in fact held that the difference referred to was based upon a mere difference of intensity: and Prof. James, when writing his larger *Psychology*, still clung to the same view,[1] although he acknowledged other, but for him less important, marks of difference.

Prof. G. F. Stout[2] indeed tells us that "we ought to hesitate before discarding a distinction generally accepted both by psychology and common sense. On the other hand, if we accept it, we must mean by 'vividness' something different from those degrees of sensible quality which may be equally present in the sensible quality as actually perceived and as mentally reproduced. What is this vividness? The answer seems to be contained in Hume's words. According to him the distinctive characteristic of percepts as compared with images is the force and liveliness with which they strike the mind. This 'striking the mind' is the essential point. At bottom the difference is a difference of quality, not of degree. Images do not strike the mind in the same way as percepts." Evidently we are here dealing with a phenomenon of attention and not with the distinction between presentation and representation which Stout speaks of as a 'difference of quality'.

In any event it seems clear that we must abandon the view that the difference between the two is merely a difference of intensity; a view which, in the opinion of Dr. James Ward, was effectually disposed of by Reid and by Lotze, and which Dr. Ward[3] has himself certainly shown to be untenable. As Sully[4] says, "it is evident that this" (difference of intensity) "is not the whole of it; otherwise we should confuse weak and indistinct impressions (*e.g.*, those of faint sounds, or of indistinctly seen objects) with images"; and this we do not find ourselves doing.

It is not difficult to understand how this notion that

[1] *Cf.* vol. ii., p. 72, last paragraph.
[2] *Manual of Psychology*, pp. 398 and 399.
[3] MIND, N.S., No. 12, pp. 517 ff. The reader is referred to the whole of this acute and instructive article.
[4] *Human Mind*, i., 283.

images and ideas are copies of sensational impressions arose in the minds of the early observers of psychic states as such; nor is it surprising that this notion which had come to them from their predecessors, became fixed in the minds of the earlier psychologists who knew little of the nature of the nervous system and of the psychic correspondences with which we are so familiar; but it seems to the writer to be far from creditable to the masters of our own time, with their wider knowledge, that they still cling to this notion, implicitly if not explicitly, as they do.

The naïve observer cannot fail to notice certain cases where the psychic correspondents of direct impressions upon his body from without seem almost identical with psychic states which are clearly not correspondent with such direct impressions. If in one moment he experiences the vivid impression due to his looking at the sun, and in a second moment closes his eyes, his experience in the second moment will usually be what Fechner would have called a "memory-after-image" of the sun, or what modern psychologists[1] are wont to call a "primary-memory-image," which is evidently very like the psychic correspondent of the impression when his eyes were open.

For the sake of simplicity we pass over with a mere mention the fact that he occasionally notices what we call positive or negative "after-images"; these, when he notes them, are evidently closely related to the "primary-memory-images" just mentioned.

Now the immediately subsequent thoughts, as he calls them, of these "primary-memory-images" are presentations which are evidently closely allied with the original "primary-memory-images" which seemed when he experienced them to be so nearly identical with the original vivid impressions. But such a "thought" is a presentation which he is wont to speak of as an "idea" rather than as an image; and when a similar thought recurs the next day it is clearly a very ordinary kind of "idea," yet is looked upon as practically the same as the "idea" of the day before, which was so closely connected with the original presentation coincident with an impression upon him from without that he then called it an image or copy of this original presentation.

While these considerations serve to explain how it happens that the naïve psychologist is led to think of what we call images and ideas as in a sense copies of original impressions, they also show that we ought not to content ourselves with

[1] *Cf.* Ward, *op. cit.*, p. 59; James Sully, *Human Mind*, i., 279.

the acceptance of such a view without full warrant. Let us then in the first place study the facts with which we are concerned, without any prejudice in favour of the view above considered which our very first examination leads us to suspect is but crudely conceived.

Sec. 5. In the first place let us try to make a clear statement of the experiences to be studied, even though in so doing we repeat what is very familiar. Suppose that in one moment with my eyes open I have what I call a sensation of yellow, and that in a second moment I close my eyes. If in the first moment the sensation was very vivid, I may have in the second moment what we choose to call a primary-memory-image which is evidently much like the yellow sensation ; or I may have a negative " after-image," which is of a sensational nature, although the colour given is the complement of the yellow of the original impression. On the day following I may have a remembrance of this sensation of yellow, or of the complementary " after-image," which is as far as possible removed from actual sensation, but which involves an " idea " of the colour.

Such are the simplest experiences of the type we are here examining, although they are relatively speaking rare ; for we do not often experience sensations which involve so little meaning. We may turn then to the more usual cases involving what we call perception. I hear a knock at the door ; I hear the clock strike ; I see my friend before me. But the knocking stops, the clock strokes cease, my friend leaves the room, and the original impressions are gone ; in place of them I have the " primary-memory-image " of the knocking, of the clock bell strokes, of the friend's face.

This primary-memory-image is very clearly of the same general nature as the " image " we have when no perceptive process has immediately preceded. The ideas which we have to-day of yesterday's perception of the knock on the door, of the clock strokes, of the face of the friend, are so clearly allied to the primary-memory-images of yesterday that we apply the same term—images—to these " ideas " of to-day.

It appears to the writer that much light is thrown upon the nature of the presentations above described by considering the nature of the coincident activities in the nervous system, and in this connexion we may make use of a diagram which may serve to simplify the description of the very complex phenomena which we are to study.

Sec. 6. In figure 1 below I intend to represent in symbolic form the nervous system of man, which is a vastly complex

system of minor systems; the small circles representing the elementary nervous parts, and the groups of small circles the minor systems within the great system. As we know, these minor systems are more or less intimately correlated. A certain group of minor systems (indicated by A in the diagram) has special relation to the stimulation of the whole system from its environment; another group of minor systems (indicated by *Γ* in the diagram) has special relation to the reaction of the whole system upon its environment; while another and vastly more complex group of minor systems (indicated by B in the diagram) functions in the co-ordination of the activities of the minor systems of group A, with the activities of the minor systems of group *Γ*.

If we assume a thorough-going correspondence between the activities within the man's nervous system and his consciousness, then this diagram may also be used, as I shall use it below, to refer to our psychic states.

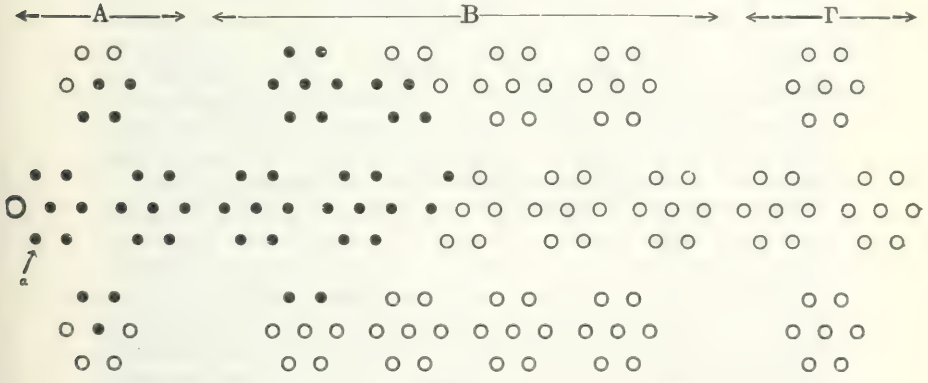

FIG. 1.

When our nervous system receives a stimulus from the environment through one of the sensory organs, we may suppose the emphatic activities resulting from the stimulation to be symbolised by the darkened portions of the above diagram (fig. 1). These activities as a whole we may well call *primary reactions*. The main emphasis of activities (indicated by the large O in fig. 1) is seen in the parts directly acted upon by the environmental stimuli; but the main system is also involved to some extent in the total primary reaction.

Now it is quite conceivable that the parts of the main system thus emphatically active in connexion with the primary reaction may, under other conditions, become em-

phatically active quite apart from any emphasis of activity in the parts directly related to the environment. In other words we ought to expect to experience conditions represented by figure 2 below, which we may well call secondary reactions :—

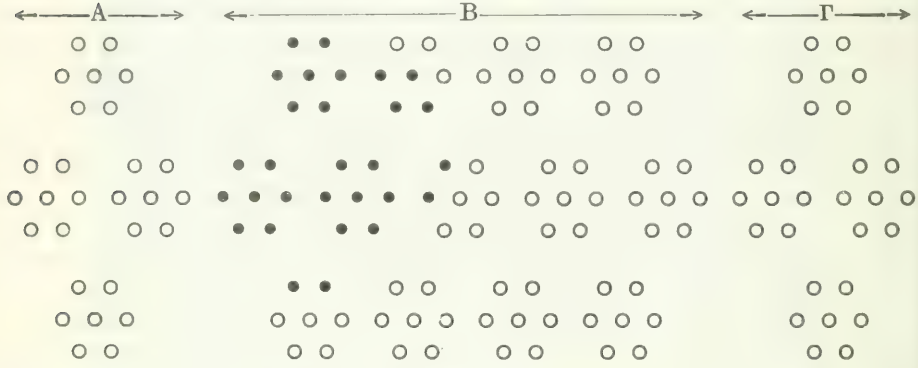

Fig. 2.

It is perfectly clear that it would be absurd for us to describe the neururgic pattern [1] symbolised in figure 2 as a copy, or reproduction, of that symbolised in figure 1. The primary reactions involve the secondary reactions; but the secondary reactions do not necessarily involve the primary reactions. In no sense can the secondary reactions be said to be copies of the primary reactions.

Sec. 7. Now when I perceive my friend before me I may represent the emphatic coincident activities of my nervous system by the darkened circles in figure 1. There is the heightened activity in the sensory minor system *a*, and this heightened activity spreads away into heightened activities in the closely related parts of the nervous system. The presentation in this case we may well call a *primary presentation.*

When I have the primary-memory-image of my friend the emphatic activities in the nervous system may be symbolised by all that is shown in figure 1, *except* the emphatic activity in the parts directly connected with the sense organ which is symbolised in the diagram by the large dark circle. And when I have to-day the so-called image of the face of my friend whom I saw yesterday, the emphatic activities in the nervous system may be symbolised by the darkened portions in figure 2.

[1] *Cf.* my article "The Unity of Process in Consciousness," Mind, N.S., No. 44, pp. 479 ff.

In cases like that mentioned in the previous paragraph, the presentations may therefore properly be called *secondary presentations*.[1]

But it is clear, from our observations in section 5 above, that these "images" just considered do not differ fundamentally from presentations which arise as coincident with neural activities less closely related to the activities of the sense organs, and I shall hereafter use the phrase secondary presentations to refer to all presentations that are not distinctly and primarily related to sensory impressions. Secondary presentations may be of various grades of relationship to primary presentations; and the phrase may thus be extended to cover all of our images and ideas. "After-images" are thus secondary presentations which are so closely related to primary presentations that they may perhaps be not improperly spoken of as impressional.[2]

The term idea, nowadays, is more usually, and perhaps more properly, applied to those secondary presentations which are very indirectly related to primary presentations; and, taking a step farther, to those to which no primary presentation could ever have corresponded.

Mr. Bradley,[3] for instance, would appear ready to use the term idea to cover "images," presentations which are recognisedly connected with images, and finally those which are not so connected; and it must not be forgotten that the earlier English psychologists employed the word idea in this same very broad way: *e.g.*, Hobbes and Browne and Locke; the last of whom uses it "to stand for whatsoever is the object of the understanding when a man thinks".

These differences of usage are apt to produce confusion in the mind of the reader, and for this reason if for no other it seems best for our purpose to use the term secondary presentation to refer to all presentations which are not distinctly impressional.

[1] It is to be noted that James Mill speaks at times of "ideas" as "*secondary* feelings".

[2] Dr. Stout, in his *Analytical Psychology* (ii., p. 14), says: "Under the influence of a large dose of haschish I find myself totally unable to distinguish between what I actually did and saw, and what I merely thought about". . . . "This shows that a revived impression is itself an impression, and not an idea." A secondary presentation of one type, classed as impressional, is thus placed in contradistinction to a secondary presentation of another type, classed as ideal.

[3] *Cf.* MIND, N.S., No. 40, p. 441. In opposition to the view "that in order to have something ideal which qualifies an object, we must have an image or images existing separate or at least separable from that object"; Mr. Bradley holds that "this identification of the ideal with images is surely a mistake".

With this meaning of the term secondary presentations before us, I wish here, in correspondence with what was said in the last paragraph of section 6, to make the point which I shall discuss at greater length in the third division of this article: that it is clearly absurd for us to describe the "noetic pattern" symbolised in figure 2 as a copy, or reproduction, of that symbolised in figure 1. If we may judge from neurological evidence *the existence of the primary presentation would seem to involve also the existence of the secondary presentation; while the existence of the secondary presentation would not seem necessarily to involve the existence of the primary presentation.* In no sense, if this view is correct, can a secondary presentation be said to be a copy of its related primary presentation.

Before we consider the main question in detail it will be well to examine more thoroughly the notion above suggested that the existence of a primary presentation always involves the existence also of a secondary presentation.

Sec. 8. If I think of my nephew who is now in Italy I have in attention what I call an "image" of him. If he should walk into my study I should have in attention something much more emphatic than this "image," a something which we call a perception of him, due primarily to impressions reaching my body from without. If he, being here, should suddenly leave the room, my presentation would no longer appear as a perception, but as an "image"; an "image" differing, it is true, in vividness and definition from the "image" I experience now that I think of him as in Italy, but clearly of the same general nature. The presentation which I would have experienced had my nephew been in my study, and had I been watching his movements, is what I call a form of primary presentation. The presentation which I would have experienced had he left the room; and also the one which, he being in Italy, I now experience, are forms of what I call secondary presentations. It is to one aspect of the difference between primary presentations as a class, and secondary presentations as a class, which commonly escapes observation that I would here direct attention.

If I look at the inkstand on my writing-table I have a primary presentation. If I close my eyes I have a secondary presentation (an "image" of the inkstand), which, if I keep my eyes closed, is noted as losing gradually from moment to moment its vividness and clearness and definiteness, until finally it is no longer able to hold its own against other presentations which crowd in upon it.

The primary presentation in this typical case may be represented by the symbol

$$(1)\ \overset{a}{\mathrm{P}}{}^{1\,-\,2\,-\,3\circ 4\circ 5};$$

in which the numbers symbolise the emphasised partial constituents of the complex primary presentation, and the marks $-\ \circ$ symbolise relations, of any determinate character, which exist between these partial constituents.

The secondary presentation which I experience when in the second moment I close my eyes may then be, in like manner, represented by the symbol

$$(2)\ \overset{a}{p}{}^{1\,-\,2\,-\,3\circ 4};$$

the small p being used in place of the large P to indicate the evident difference of emphasis, or vividness as we say, between the primary and secondary presentations; the numbers and symbols of relation being retained to indicate the evident likeness of general nature existing between the primary and the secondary presentations; the number 5 however being dropped, to indicate, what is equally evident, that some of the elements which appear in the primary presentation of one moment are lost in the corresponding secondary presentation of the following moment.

If I keep my eyes closed, this secondary presentation changes, as we have seen, in clearness and definiteness, and apart from complications these changes appear to consist, largely at all events, in the dropping out of emphasis of some of the partial constituents of the secondary presentation symbolised by the numbers 1, 2, 3 and 4 in the formula (2). If I keep my eyes closed for four successive units of time (which I speak of as moments) these images or secondary presentations which I experience may then be symbolised as follows:—

$$(2)\ \overset{a}{p}{}^{1\,-\,2\,-\,3\circ 4},\ (3)\ \overset{a}{p}{}^{1\,-\,2\,-\,3},\ (4)\ \overset{a}{p}{}^{1\,-\,2},\ (5)\ \overset{a}{p}{}^{1}.$$

The five presentations of these five successive moments, as usually considered, may therefore thus be symbolised as follows:—

$$(1)\ \overset{a}{\mathrm{P}}{}^{1\,-\,2\,-\,3\circ 4\circ 5},\ (2)\ \overset{a}{p}{}^{1\,-\,2\,-\,3\circ 4},\ (3)\ \overset{a}{p}{}^{1\,-\,2\,-\,3},\ (4)\ \overset{a}{p}{}^{1\,-\,2},\ (5)\ \overset{a}{p}{}^{1}.$$

This is what happens if after the first moment I close my eyes.

But if in, let us say, the fourth moment, I had opened my eyes, then I should have had quite a different experience. For then, instead of secondary presentation, $\overset{a}{p}{}^{1\,-\,2}$, I should have found myself experiencing a new primary presentation,

of, say, my inkstand before me, very similar to the primary presentation of moment (1), and which we may represent by the symbol

$$(4a)\quad \overset{\beta}{\mathrm{P}}{}^{1-2}{}_{-3^{\circ}4_{\circ}5};$$

this symbol differing from (1) only in the use of β instead of α over the P.

In the fifth moment, if I had kept my eyes open, instead of $\overset{\alpha}{p}{}^{1}$, I should have experienced still another primary presentation of very similar form, which we may represent by the symbol

$$(5a)\quad \overset{\gamma}{\mathrm{P}}{}^{1-2}{}_{-3^{\circ}4_{\circ}5}.$$

Now we usually assume that in what we have described as the fourth and fifth moments, if my eyes are closed, I experience images, or secondary presentations, as per symbols 4 and 5; but that if in those same moments I open my eyes I experience primary presentations as per symbols (4*a*) and (5*a*), *instead of* secondary presentations (4) and (5), which latter then cease to exist. But it appears highly improbable that such can really be the case; and much more probable that in the fourth moment, in case I open my eyes, I have primary presentation $\overset{\beta}{\mathrm{P}}{}^{1-2}{}_{-3^{\circ}4_{\circ}5}$, plus secondary presentation $\overset{\alpha}{p}{}^{1-2}$ which I would have experienced alone had I kept my eyes closed. In fact, it would seem probable that our common assumption, that when I open my eyes p^{1-2} becomes non-existent, is entirely due to an illusion resulting from the fact that in subsequent reflexion the vividness of the primary presentation $\overset{\beta}{\mathrm{P}}{}^{1-2}{}_{-3^{\circ}4_{\circ}5}$ involves effects which entirely overwhelm the coincident secondary presentation $\overset{\alpha}{p}{}^{1-2}$; but do not obliterate it.

But then we are led to go even farther than this: we must also assume that with the primary presentation of moment 1 there also existed a secondary presentation, which we however are unable to recognise in reflexion because of the effects of the superior vividness of the primary presentation. In other words, we must believe that in the first moment, with open eyes, we have not $\overset{\alpha}{\mathrm{P}}{}^{1-2}{}_{-3^{\circ}4_{\circ}5}$, but rather

$$\left\{\begin{matrix}\overset{\alpha}{\mathrm{P}}{}^{1-2}{}_{-3^{\circ}4_{\circ}5}\\ \overset{\alpha}{p}{}^{1-2}{}_{-3^{\circ}4_{\circ}5}\end{matrix}\right\};$$

and that in the second moment when we close our eyes we catch in $\overset{\alpha}{p}^{1-2-3\circ 4}$, not the development of $\overset{\alpha}{\mathrm{P}}^{1-2-3\circ 4\circ 5}$, but rather the development of $\overset{\alpha}{p}^{1-2-3\circ 4\circ 5}$, which was present with $\overset{\alpha}{\mathrm{P}}^{1-2-3\circ 4\circ 5}$ in the first moment, but overwhelmed by the effects of the superior vividness of the latter. If this is true, then, if we assume consciousness to be devoid of any emphases previous to moment 1, the true symbols representing the presentations of the five successive moments will be as follows:—

(1) $\left\{\begin{matrix}\overset{\alpha}{\mathrm{P}}^{1-2-3\circ 4\circ 5}\\ \overset{\alpha}{p}^{1-2-3\circ 4\circ 5}\end{matrix}\right\}$ Eyes open.

(2) $\overset{\alpha}{p}^{1-2-3\circ 4}$. Eyes closed.

(3) $\overset{\alpha}{p}^{1-2-3}$. Eyes closed.

(4) $\left\{\begin{matrix}\left[\begin{matrix}\overset{\beta}{\mathrm{P}}^{1-2-3\circ 4\circ 5}\\ \overset{\beta}{p}^{1-2-3\circ 4\circ 5}\end{matrix}\right]\\ \overset{\alpha}{p}^{1-2}\end{matrix}\right\}$ Eyes open.

(5) $\left\{\begin{matrix}\left[\begin{matrix}\overset{\gamma}{\mathrm{P}}^{1-2-3\circ 4\circ 5}\\ \overset{\gamma}{p}^{1-2-3\circ 4\circ 5}\end{matrix}\right]\\ \overset{\beta}{p}^{1-2-3\circ 4}\\ \overset{\alpha}{p}^{1}\end{matrix}\right\}$ Eyes open.

In other words, it seems highly probable that with each primary presentation, occasioned by direct stimulation of our bodily organs from the environment, there goes also a secondary presentation or image, which latter, however, is overwhelmed by the effects of the superior vividness of the primary presentation.[1]

Sec. 9. The conclusion reached in the previous section is rendered still more probable by observation of what we have

[1] *Cf.* my *Pain, Pleasure and Æsthetics*, p. 29. *Cf.* also Shadworth H. Hodgson, *Metaphysic of Experience*, vol. iii., p. 28, where he says: "A presented sensation begins to recede into the past of memory the very moment of its rising into consciousness, or appearing above the threshold. I do not say merely from the moment of its attaining its maximum of vividness as a presentation, but from that of its rising into consciousness at all, prior, it may be, to its greatest vividness being reached. This is saying, in other words, that representation is included as an inseparable element, or ingredient, in all presentations."

above spoken of as the primary and secondary reactions of the nervous system which are coincident with these primary and secondary presentations. In the case of the primary presentations we have in emphasis the activities of the parts of the nervous system directly connected with the terminal organs. In the case of the secondary presentations we have in emphasis the activities of parts of the nervous system only very indirectly connected with the terminal organs. But it is highly improbable that, when we have in emphasis the activities of the parts of the nervous system directly connected with the terminal organs, then there is an entire lack of special activity in the parts of the nervous system which are only indirectly, but which are nevertheless to some extent, connected with these terminal organs. Much more probable is it that coincident with the emphatic activities in the parts very directly related to the terminal organs there is also special activity, though less emphatic, in the parts indirectly connected with these terminal organs. So that if the action of the parts of the nervous system in successive moments is represented by $\overset{\alpha}{R}$, $\overset{\beta}{R}$, $\overset{\gamma}{R}$, etc., it is probable that we have, in moment 1 when our eyes are open, not merely the emphatic activities $\overset{a}{R}^{1-2-3°4_o5}$, but really $\left\{\begin{matrix}\overset{a}{R}^{1-2-3°4_o5}\\ \overset{a}{r}^{1-2-3°4_o5}\end{matrix}\right\}$ which, when the eyes are closed, develops only by the emphasis of activities in the parts indirectly connected with the terminal organs, so that in moment 2 we have $\overset{a}{r}^{1-2-3°4}$ due to such action, and freed from all influence determined by the stimulation of the parts directly connected with the terminal organs, which is cut off by the closing of the eyes.

All this may be symbolised again by the use of figures 1 and 2 already used in section 6 above.

Here we may suppose that the primary presentation, or impression, is given in correspondence with the emphases in the minor systems represented by the darkened circles in figure 1. If the direct action from the environment is eliminated then we cut off the emphasis **O**, but the rest remains in the secondary presentation.

And if at any future time we obtain the emphases indicated in figure 2 by the darkened circles in the groups other than *a*, we will have a secondary presentation which may not be in any direct way initiated by an impression upon us.

Sec. 10. In speaking, as I have above, of the primary presentations being always "accompanied" by secondary

presentations, I have, for the sake of simplicity in exposition, spoken somewhat loosely. These so-called accompanying secondary presentations must be in fact part and parcel of the presentations into the complex mass of which both primary and secondary presentations are fused. All that I mean to indicate is that certain parts of the primary presentation are eliminated where the presentation changes from a primary to a secondary presentation, or image; so that the secondary presentation, or image, appears as consisting only of the parts not thus eliminated; but that, when we come to consider the primary presentation in the analysis of reflexion, these parts of the primary presentation, which as developed go to make up the body of the secondary presentation, are overwhelmed by the effects of the more emphatic elements directly related to impressions upon us from without.

III. Of Representation.

Sec. 11. Let us now turn to the fuller consideration of the view, referred to at the close of section 7, that secondary presentations are in no sense copies of primary presentations, as was definitely held, as we have seen, by the early associationists, and which is involved with the more modern doctrine of the existence of re-presentations.

"Every moment of consciousness," says Bosanquet,[1] "is full of a given complex of presentation which passes away and can never be repeated without some difference. For this purpose representation is just the same as a presentation, is in fact a presentation."

The notion thus expressed is evidently utterly opposed to the view that images—ideas, representations—are in any way copies of what I call primary presentations; but it is quite in accord with the above-mentioned view that each complex presentation as experienced is a new and unique presentation. Such statements as that of Bosanquet's pass without serious objection, and modern psychologists since James would hesitate to deny their truth; nevertheless, it seems clear that the implications of this and similar statements are not realised by those who still persist in speaking of what I call secondary presentations as though they involved a reduplication of a previously experienced presentation.

As a matter of fact, in ordinary life, when we are not concerned to expound any psychological doctrine, we practically

[1] *Essentials of Logic*, p. 74.

recognise that what are called "representations" are in no sense copies of what has gone before. In every-day English speech we use the verb "to represent" with the meaning "to stand for" rather than with the meaning "to present again". This is as if the common man had quite naïvely come to agree that when we speak of presenting again we are really speaking inaccurately of a presentation which merely *stands for* a presentation that has preceded the one under consideration; and that the notion that we ever do have actual re-presentations is an illusion.

And at times recognition of this fact seems to be very explicit indeed. No one will claim, for instance, that the secondary presentation (the so-called re-presentation) of the face of his friend who died five years ago is in any way exactly the same thing as the secondary presentation to which he attached the same name the day after his friend's death. We all agree that when considerable lapses of time are taken into account, these secondary presentations are so much changed as to be practically new at all events, and we must likewise acknowledge that the change which is thus recognised must have been a gradual one. It is a marked one now that five years have passed away; it was just noticeable one year after the loss; it was unnoticeable a month after the death.

At first sight it is likely to seem necessary to some reader to hold that we are here dealing with a continuing presentation which has been losing attributes and connexions as time has flown; for how else, it may be asked, can we know at all that the secondary presentation of a year ago has altered: if it appears to us to be the same in any respect it would seem that in some way we must hold a permanent somewhat; otherwise comparison of the secondary presentation, or revival, of one time could not be made with the secondary presentation of another time; indeed he may claim that in some manner the very original presentation remains with us to be compared with the miserable counterpart which we call the revival as it is to-day.

Dr. James Ward, for instance, in an article published in the issue of MIND of October, 1883 (p. 478), holds that revivability involves identification in which one thinks, this mental state (m_2) is identical with the state (m) which has been before presented to me, and says: "There seems but one way out of our difficulty, and that is to assume that after all the m was continuously presented but with a diminished and perhaps ever-diminishing intensity; and further, that at its so-called representation its intensity was sufficiently

increased to enable it to rise above the 'threshold of consciousness' and become a distinct object of attention".

But it is apparent upon more careful consideration that such a position cannot be accepted unreservedly in the face of the fact that we recognise that what we have to-day is exactly *not* what we conceive that we had at the time of the death of our friend, say five years ago. It is recognised to be but a mere unsatisfactory ghost of what we had in mind immediately after his death.

It is clear here that we are making comparison of two different partial secondary presentations in one complex presentation. We have before us a secondary presentation (*a*), "the face of our friend as it appeared five years ago as a secondary presentation, or image"; this secondary presentation of this present moment not being at all the same as the secondary presentation "the face of our friend" as it existed five years ago, but being called by the same name. We have also before us a secondary presentation (*b*) "the face of our friend as it appears in memory to-day". And beyond this we have before us to-day the comparison of these two secondary presentations which are partial presentations in one more complex presentation; in which comparison (*a*) "the face of our friend as it appeared five years ago as a secondary presentation" and (*b*) "the face of our friend as it appears in memory to-day" are found different and not at all alike.

That this difference implies some sort of identity, as the basis of the unity between these two secondary presentations, as they are held together yet apart in the psychosis of the moment of comparison, is of course clear. *But this identity is in the complex presentation of the moment*, and can in no way be regarded as evidence of a permanent form of presentation which has persisted through all these five years, or indeed through any two successive moments.

Sec. 12. In order to make this point clearer let us carry our symbolisation of section 8 a little farther, and that we may gain some measure of simplicity in description and symbolisation let us suppose that, at the moment previous to the stimulation from the environment, the activity of the whole nervous system with which presently the field of attention is to correspond, is reduced to zero. Such a condition can in fact never actually occur in our experience, but it may be sufficiently approximated to, to warrant the assumption; for example, in the case of a man who is sleeping very soundly and who is fully awakened by a violent crash of thunder.

In accordance with the symbols of section 8 we will then have, in five successive moments, presentations which may be represented as follows:—

(1) $P^{1-2-3\circ 4\circ 5}$, $p^{1-2-3\circ 4\circ 5}$;
(2) $p^{1-2-3\circ 4}$;
(3) p^{1-2-3};
(4) p^{1-2};
(5) p^{1}.

But, of course, cases where the stimulus acts for an indefinitely short time may really be eliminated from our consideration. They do not actually occur in our experience, and therefore the presentations corresponding with them do not occur. They have been spoken of merely to prepare the way for the study of the actual cases now to be mentioned.

Where the stimulus acts not merely for an indefinitely short time; but where, as is normally the case, it is continuous for a sufficient time to act in relation with the rhythm of activity within the system; then in successive moments we will have, in the first place, a slight change in the reaction upon the continuing stimulus from moment to moment due to the fact that the nature of the system is altered at each moment as the result of the reception of the stimulus; and this we may indicate by placing different Greek letters over the large P's used in the symbols.

In five successive moments, therefore, under a perfectly continuous stimulation we will have five primary presentations which we may symbolise thus:—

$$\left\{\begin{matrix}\overset{\alpha}{P}^{1-2-3\circ 4\circ 5},\\ \overset{\alpha}{p}^{1-2-3\circ 4\circ 5},\end{matrix}\right\}\left\{\begin{matrix}\overset{\beta}{P}^{1-2-3\circ 4\circ 5},\\ \overset{\beta}{p}^{1\ \ 2-3\circ 4\circ 5},\end{matrix}\right\}\left\{\begin{matrix}\overset{\gamma}{P}^{1-2-3\circ 4\circ 5},\\ \overset{\gamma}{p}^{1\ \ 2-3\circ 4\circ 5},\end{matrix}\right\}$$

etc., etc.

But beyond this in each successive moment after the first the primary presentation will be complicated by the secondary presentations due to effects of the preceding moments of stimulation. Consequently in five successive moments we shall have five forms of presentation which may be symbolised as follows:—

$$(1)\ \left\{\begin{matrix}\overset{\alpha}{P}^{1-2-3\circ 4\circ 5}\\ \overset{\alpha}{p}^{1-2-3\circ 4\circ 5}\end{matrix}\right\}$$

$$(2)\ \left\{\begin{matrix}\overset{\beta}{P}^{1-2-3\circ 4\circ 5}\\ \overset{\beta}{p}^{1-2-3\circ 4\circ 5}\end{matrix}\right\};\ \overset{\alpha}{p}^{1-2-3\circ 4};$$

$$(3)\ \left\{\begin{matrix}\overset{\gamma}{\mathrm{P}}{}^{1-2}{}_{-3^{\circ}4_{\circ}5}\\ \overset{\gamma}{p}{}^{1-2}{}_{-3^{\circ}4_{\circ}5}\end{matrix}\right\};\ \overset{\beta}{p}{}^{1-2}{}_{-3^{\circ}4};\ \overset{\alpha}{p}{}^{1-2}{}_{-3};$$

$$(4)\ \left\{\begin{matrix}\overset{\delta}{\mathrm{P}}{}^{1-2}{}_{-3^{\circ}4_{\circ}5}\\ \overset{\delta}{p}{}^{1-2}{}_{-3^{\circ}4_{\circ}5}\end{matrix}\right\};\ \overset{\gamma}{p}{}^{1-2}{}_{-3^{\circ}4};\ \overset{\beta}{p}{}^{1-2}{}_{-3};\ \overset{\alpha}{p}{}^{1-2};$$

$$(5)\ \left\{\begin{matrix}\overset{\epsilon}{\mathrm{P}}{}^{1-2}{}_{-3^{\circ}4_{\circ}5}\\ \overset{\epsilon}{p}{}^{1-2}{}_{-3^{\circ}4_{\circ}5}\end{matrix}\right\};\ \overset{\delta}{p}{}^{1-2}{}_{-3^{\circ}4};\ \overset{\gamma}{p}{}^{1-2}{}_{-3};\ \overset{\beta}{p}{}^{1-2};\ \overset{\alpha}{p}{}^{1}.$$

Here the difference of Greek letter above the letters P indicates, as noted above, that in successive moments there is some difference in the successive primary presentations, small though it be. The capital letters indicate the parts of the total presentations due to the stimulation of the moment, which are recognised as the primary presentations; while the small letters indicate the parts of the total presentations due to the effects of previous stimulation, which constitute secondary presentations which are overwhelmed by the vividness of the several primary presentations.

Complicated as these formulæ appear they will be recognised as most artificially simplified for our special purpose. In fact the complexity of a noetic pattern, such as we have used as a simile in a previous article, gives a much closer suggestion of the real nature of the presentation of any moment. I present these formulæ because in the final one, No. (5), we have a symbol which is typical, as it pictures well the simplest form of primary presentation which can be conceived to occur in our experience, and may be presumed to represent the general form of such much more complex primary presentations as we usually experience.

Sec. 13. If such formulæ do picture our presentations, as we experience them, then we find no reason to wonder that when we cut ourselves off from the stimuli which bring with them primary presentations, a vast field of secondary presentations appears in consciousness. Nor do we wonder that after the experience of a presentation of the form (5) (say the perception of my friend before me) we sometimes (say when my friend leaves the room) experience a presentation of the form

$$(6)\ \overset{\epsilon}{p}{}^{1-2}{}_{-3^{\circ}4};\ \overset{\delta}{p}{}^{1-2}{}_{-3};\ \overset{\gamma}{p}{}^{1-2};\ \overset{\beta}{p}{}^{1}.$$

Nor do we wonder that, often, complex fields appear in which we experience not only primary presentations of one sort (say the perception of my friend), and at the very same

time, series of secondary presentations of quite another nature, say, for instance, thoughts of the studies I am making, and a vast complex of less definite imagined objects and relations, one of which perchance may be what we call "a previous perception of my friend".

The formula (6) above may symbolise such a secondary presentation (say what I call "a previous perception of my friend"), and it is easy to see that we may have at one moment a still more complex presentation of the following form in which we shall have together, in condition for comparison, both a primary presentation, and a secondary presentation derived from what was a closely allied primary presentation.

(7)

A	$\left\{\begin{matrix}\overset{\zeta}{P}{}^{1-2-3^{0}4_{0}5} \\ \overset{\zeta}{p}{}^{1-2-3^{0}4_{0}5}\end{matrix}\right\}$; $\overset{\epsilon}{p}{}^{1-2-3^{0}4}$; $\overset{\delta}{p}{}^{1-23}$; $\overset{\gamma}{p}{}^{1-2}$; $\overset{\beta}{p}{}^{1}$	The perception of my friend before me.
B	$\overset{\epsilon}{p}{}^{1-2-3^{0}4}$; $\overset{\delta}{p}{}^{1-2-3}$; $\overset{\gamma}{p}{}^{1-2}$; $\overset{\beta}{p}{}^{1}$	What I call "a previous perception of my friend".

It is clear that here we have a case in which comparison is possible; which involves a complex presentation of triple emphasis; A and B in symbol (7) constituting two of these emphases, and the "sense of likeness" the third. But as all know who have given serious attention to the real meaning of likeness and unlikeness,[1] because we say that two of the partial emphases within the complex presentation of triple emphasis is alike, gives us no ground for holding that we have here an old presentation reproduced. As we have already said above, a bond of identity exists, but this identity is *in the complex presentation of the moment of comparison.*

Sec. 14. In order that we may examine this specific process of comparison without the disturbance of a too cumbersome symbolisation, let us agree to overlook the fact that secondary presentations inhere in primary presentations, and let us use the letter A to represent a given primary presentation.

I look at my watch held in my hand and I have (A) a primary presentation of the watch. When I put my watch in my pocket I no longer have the primary presentation (A),

[1] *Cf.* Fullerton's *On Sameness and Identity.* Publications of the University of Pennsylvania, 1st April, 1890.

but a complex secondary presentation which at times takes the form which leads me to say that I have the representation of the primary presentation "the watch".

Now, in such a case, what I really have in attention in the second moment is a complex secondary presentation of triple emphasis in which two parts appear especially prominent. If I use A as the symbol of the primary presentation "my watch in my hand": then, in the moment when I have the secondary presentation which leads me to say "this is a representation of the perception of the watch when it was in my hand," this secondary presentation is of the following nature.

1. A partial secondary presentation which is commonly called the representation of A; and which I may designate by the symbol *a*.

2. A partial secondary presentation which is what I call "what A was"; and which I may designate by the symbol 𝔄.

3. A sense of relation which leads me to say that *a* and 𝔄 are alike.

The primary presentation A no longer exists. What does exist is two partial secondary presentations, *a* (the so-called representation of A), and 𝔄 ("what A was"): both within one complex secondary presentation.

These two partial secondary presentations *a* and 𝔄 I compare; and I think of *a* (the so-called representation of A) as so far like 𝔄 ("what A was") that *a* is almost completely identified with 𝔄; and *a* (the so-called representation of A) is said to be almost exactly 𝔄 ("what A was").

It is evident here that we are dealing in the first place with the comparison of differents, and not with anything like identities. And it is clear in the second place that the *a* and the 𝔄 with which we are dealing are widely different from A; for A was a primary presentation, while *a* and 𝔄 are clearly secondary presentations.

It is also clear that *a* and 𝔄 differ widely, although they are both parts of a complex secondary presentation. For *a* (the so-called "representation" of the non-existent A) may be, and often is, what we have above called a primary-memory-image, a secondary presentation which seems to be almost primary in its character; or it may be just as far as possible from such a primary-memory-image. That is to say *a* may differ widely in its character of nearness and vividness and fulness.

But such is not the case with 𝔄 (what A was). It can never acquire the primary characteristics of the primary-

memory-image. On the other hand, it has a certain completeness which does not belong to *a* (the so-called representation of A), which latter in comparison seems elusive and lacking in stability. *a* and 𝔄 can thus not be identified in any sense.

It is also clear that *a* is not a presentation again of 𝔄 (what A was), and I myself can see no ground whatever for the assertion that *a* is a presentation again of A itself.

Sec. 15. It appears then that, in the introspective experience of the recognition of what we call images or representations, we have no evidence whatever that they are exact reproductions of any previously existing presentations, and, therefore, the occurrence of these images or representations does not stand in opposition to the view already maintained that each presentation is a perfectly new one.

Our use of terms is evolved out of the every-day needs of practical life. In this practical life we assume that the objects around us are what we call "the same" from moment to moment, although when we consider the matter carefully we know they cannot be actually so. It is only for convenience and for practical utility that we assume this identity even of object as the source of successive primary presentations and of their connected images or secondary presentations. And even this assumption, useful as we ordinarily find it, not infrequently shows us its falsity by leading us into difficulties; as, for instance, when the misunderstanding of a friend's action is acknowledgedly due to our failure to appreciate the change that has come over him with changed conditions that we cannot grasp.

In a quite similar manner we assume that the primary presentations arising in connexion with successive experiences (and compared as secondary presentations in a new moment) are the same from moment to moment; but it must be acknowledged that this assumption like the one first mentioned is based, not upon any real permanency, but upon the needs of practical life. If we did not constantly react upon our environment just as if the secondary presentation of any one moment was what we call "the same" as the primary presentation of the previous moment—just as if the primary presentation of one moment had *what we speak of as* some permanent elements which ran over into the secondary presentation of the next moment—we should be unable to continue our existence as organic beings. It is this demand of practical life which has fastened upon us the crude notion that successive presentations are in some measure not always new and unique.

Sec. 16. In order to avoid misconception it is to be noted that the view that each presentation is new and unique does not stand in any opposition to that form of experience which leads us to describe consciousness as a stream, or to speak of the "presentation continuum" as we do. At any given moment we have as it were a cross section of the stream of consciousness, and it is this cross section which we claim to be always new and unique. When we have the experience which forms the basis of our conception of the "presentation continuum" we are taking a retrospective view of many successive presentations which have occurred in successive moments.

If the secondary presentations related to any three of these successive increments (α, β, γ) are held at one moment in attention, then we experience a presentation of triple emphasis consisting of 1° "what α was," 2° "what β was," and 3° "what γ was". In such cases we always find in (2°) "what β was," bonds of identity with both 1° and 3°; so that "what β was" holds "what α was" and "what γ was" together, and gives us our experience of a continuum. But this experience surely gives us no ground for the assertion that anything in α itself has persisted unchanged through β and γ. The fused identical elements are *in the complex presentation of the moment of comparison*, and involve no denial of the view that this presentation of comparison, like all other presentations, is new and unique.

Sec. 17. The reader of the preceding sections will perhaps ask himself whether this doctrine of the lack of permanency of presentations, if true, will affect this practical life of ours, or will aid us in our conceptions and statements of psychological theory. In answer to this question I would say that in my view there is no reason to ask the average man to make any change in the conceptions to which he has become accustomed; nor indeed is there any reason why we as psychologists should necessarily alter the language of our science which has become current through long usage.

Secondary presentations must for practical purposes be held to refer to the same stable objects which have brought into being their primary presentations. Practically in every-day life we may accept the common-sense notion that certain secondary presentations are representations, or copies of certain primary presentations; for the value of this notion of presentative fixity, and of the stability of the objective coincidents, is felt constantly in our every-day thought and action. Nor is it probable that it would be possible, even if

it were wise to attempt, to break down the English use of the word "representation" in strictly psychological discussion; and this will not be needful if it be held constantly in view that it involves no implication of a permanency of the original presentation to which the so-called 'representation' refers.

Sec. 18. On the other hand, when we consider one point it becomes evident that the position here maintained, if accepted, has important bearings upon psychological theory.

If, returning to the doctrine as stated by James Mill, it be assumed that what we call representation,—or in my terminology secondary presentation,—is determined by the permanent existence of the primary presentation in some modified form, then we are naturally led to ask two questions.

1. How does it happen that a given presentation, having once disappeared, ever reappears as a "representation"?

2. How does it happen that a given presentation, having once appeared, ever disappears?

It is interesting to note that this diversity of point of view, in reference to what is practically the same problem, has had much to do with the development of two great schools of psychological thought.

The first way of looking at this problem is that maintained by the School of Associationists, who tacitly assume a permanent character in presentations. The Associationist psychology has been of great service in recording the movement of secondary presentations and in describing their relations to one another, and in noting by careful analysis the common elements between successive appearances of the secondary presentations. It has thus, in a manner, explained the appearance of these secondary trains, showing them to be stimulated in a manner not dissimilar from that which holds for primary trains. But if it be claimed that the doctrine of association has given a fairly satisfactory answer to the question how presentations reappear as "representations," it must surely be agreed that it has given no adequate explanation of the disappearance of presentations; it has not answered satisfactorily the second question —why, having once appeared, do they ever disappear?

This latter question, which was asked as long ago as the time of Diogenes, is distinctly raised by Lotze; and we have in the Herbartian theory of consciousness an evident attempt to reply to this question as well as to the first question above mentioned, and again, on the assumption that presentations are in some manner or measure permanent; for

the Herbartians postulate a spontaneous tendency of presentations to arise unless they are repressed. But although they give us a scheme which appears to have scientific form, in that it presents a theory related to well-formulated mechanical notions, it has not been found adequate as a basis of psychological theory in general.

As neither of these opposed systems has given us fully satisfactory results, we might well have been led to examine the postulate of the permanency of presentations upon which they are both based had our attention not been called to this subject by other considerations; and, having discovered that this postulate cannot be maintained, we may well ask what effect the abandonment of it has upon the two opposed systems thus considered.

If this postulate be denied, Herbartianism clearly loses its main support, and its complex structure falls, leaving little more of value to us than the record of more or less isolated remnants of valuable introspective detail, the worth of which we must all acknowledge.

But the Associationist's structure does not seem thus to fall into utter ruin if this postulate upon which it was originally based be denied. I am quite willing to agree that the Associationists have exaggerated the importance of their doctrines, and have in some measure obstructed true psychological advance by their atomistic treatment of our mental life; by the introduction of the notion that presentational agglutination can make up a new psychic totality;—that "mental chemistry" can produce new "ideas" by a rearrangement of psychic atoms into psychic molecules, as it were—by a rearrangement, in other words, of supposedly stable "representations". Nevertheless, it must certainly be granted that they have done Psychology notable service by giving a basis for introspective observation and record, and that the observations recorded in, and by means of, the laws of Association which they have formulated, have been, and are certain to be in the future, of the greatest service in the development of Psychology. It is a satisfaction, therefore, to find this restatement of the postulate upon which they rely involving no fundamental break-down of their system; for the real basis of the teachings of the Associationists is not to be found in this postulate.

If our contention be valid there will, of course, result certain important changes of conception, to which we cannot now refer, although we may note that the view here maintained gives us an added argument in opposition to the doctrine above referred to, *viz.*, that supposititious stable

presentative elements can be treated as we treat stable molecular complexes—combining them to produce *quasi* mental alloys (as emotions have been held to be mixtures of pleasures and pains); or summating them to form new products of a nature quite different from the agglutinated elements; or, when forming these new presentations, again re, and re-re, and re-re-re-presenting them in new series to form still new products, until within the vague mists of an unending regression we lose ourselves; and resting satisfied with mysteries of our own creation set for ourselves utterly artificial limits to our own ability to grasp the true nature of the facts which present themselves to us for explanation and co-ordination.

V.—DISCUSSIONS.

TRUTH AND CONSEQUENCES.

Mr. Schiller's paper in Mind, N. S., No. 54, contains, I find, one or two references to myself which seem to call for a word or two of reply. This word or two I shall try to make as concise and as clear as I can, though I fear I shall not be able to be as brief in the matter as I could wish. For polemics against particular contemporaries, I confess, I have in general little leisure and less inclination, being altogether of the opinion that it is more profitable to attempt to understand one's critics than to wrangle with them, and that a student of philosophy has no truer friends than those opponents who succeed in showing him his mistakes. Yet I see that in his first allusion to myself (*loc. cit.*, p. 236), Mr. Schiller contrives to insinuate censure of my supposed polemical ardour. After complaining in the text of his paper that 'Peirce's principle' should have been denied by certain "over-zealous controversialists," Mr. Schiller explains in a footnote that I, and only I, am the over-zealous person of whom he is thinking. Now, as I say, I hold that I, or almost any other man, for the matter of that, may fairly protest against such a description as coming from the author of *Humanism*. I do not think that Mr. Schiller is justified in censuring many of his brother-students whether on the score of the amount of controversial matter to be found in their productions or on that of the tone and temper in which their controversies are conducted. For my own part, the rule I propose to myself has always been, never to criticise views from which I dissent unless it seems impossible to make my own attitude clear in any other way except at the cost of intolerable discursiveness. And in the case of Mr. Schiller's own philosophical master, the eminence and deserved reputation of Prof. James are so great that I should think myself wanting in respect if I did not, in dissenting strongly from some of his characteristic views, do my best to make my reasons for disagreement manifest.[1]

[1] Mr. Schiller professes, in a sentence which seems in part at least to be addressed to myself, indignation at the 'blindness' of persons who admit the eminence of Prof. James as a psychologist but deny the coherence of his philosophic views. To me it seems that those of us who take this line might reasonably plead against Mr. Schiller's indignation the example of Prof. James's own treatment of a no less eminent

Mr. Schiller's implied disapproval of my supposed zeal for controversy is however, of course, a very trivial and merely personal affair. My real concern is with the rest of his complaint. "Even he," he goes on, "prudently refrains from trying to illustrate how 'between two doctrines which are, so far as their consequences in practice are concerned, indistinguishable, there may yet be all the difference between proved truth and demonstrable contradiction'." To convince Mr. Schiller that the paucity of illustrations was due more to regard for the editor's space than to any doubt as to the existence of such illustrations, I take this opportunity of offering an example or two of what I meant.

It is, as is well known, a disputed point in arithmetical theory whether the concept of the cardinal number of a group of objects is logically derivative from that of their serial order, and consequently a result of the operation of counting, as in the doctrine of Helmholtz and Dadekind (the *théorie empirique* of M. Couturat), or logically independent both of the notion of order and of the operation of counting (Couturat's *théorie rationaliste*). Now, inasmuch as in all the applications of numerical theory to practical measurement and computation the numbers with which we have to work are always finite, and in the case of finite numbers, owing to the so-called law of the "invariance of number," there is always a one-to-one correspondence between the cardinal number of a group and the ordinal number of its last term, the practical[1] consequences of the two theories are indistinguishable. It is only when we come to deal with those objects of pure "theory," the transfinite cardinals and ordinals, for which this correspondence no longer holds good, that the marked logical advantages of the last-named doctrine become visible. Yet it may fairly be claimed that both theories cannot possibly be true, and, moreover, that neither theory is, as on Mr. Schiller's premisses it should be, "meaningless," while many students of M. Couturat's work, *De l'Infini Mathématique*, would, I suspect, not refuse to call one of them "proved truth," and the other "demonstrable contradiction".

My second example shall be the pair of contradictory propositions, "the hundredth digit to the right of the decimal point in the expression of π in the denay scale of notation is a 9," "the hundredth digit to the right of the decimal point in the said expression is not a 9". No one, I imagine, will pretend that it is ever necessary, or even advisable, in the practical applications of geometry to make

writer. What Prof. James says of Helmholtz (*Principles of Psychology*, ii., p. 278), that "his genius moves most securely when it keeps close to particular facts," whereas his more speculative views "in spite of many beauties" are "vacillating and obscure," seems to me no less true of Prof. James himself. At any rate, I do not see that what Prof. James may say without offence of Helmholtz becomes a reason for indignation when said by some one else of Prof. James.

[1] As always, by practice, I understand the origination by individuals of changes in the temporal order of events, and by practical consequences, consequences consisting in such changes.

use of a value of π calculated out to a hundred decimal places. Does this prevent my saying truly that one or other of the statements in question, and only one of them, must be true? Or would it justify Mr. Schiller in declaring, as his philosophy seems to require him to do, that neither statement has any meaning at all? Or shall we suggest, as Prof. James seems to do (*Will to Believe*, p. 15), that after all his opponent's baby is "only a very little one," and therefore apparently to the philosophic eye as good as non-existent? Yet one more illustration, this time from the history of metaphysics, and I have done. It has long been recognised that the Berkeleyan subjectivism leads to no practical consequences in our operations on physical things other than those which would equally result from every-day empirical realism, or any other metaphysical interpretation of the data of perception. Moreover, though that is neither here nor there, the Berkeleyan doctrine is, in my opinion, one which admits of complete formal logical disproof. Yet it would be news to me, and I think to many besides myself, that Berkeleyanism, because leading to no special practical consequences, must be 'meaningless'?

If I may make so bold as to offer a conjecture, Mr. Schiller would probably meet these objections by urging that my illustrations unduly narrow down the range of the concept of the practical. But my difficulty with Mr. Schiller and his friends is precisely that they seem to have themselves no intelligible account to offer of the scope of that concept. And, in consequence, I find myself in a dilemma. Either the meaning of 'practice' has to be so extended that the mere inferability of one proposition from another takes rank as a 'practical consequence,' in which case the first principle of the new creed degenerates into the empty truism that something is implied by any assertion. Or else, you still continue to draw a distinction between the *practical* consequences of an assertion and other consequences which are merely theoretical. In that case the proposition that the truth of a statement depends solely on its practical, to the entire exclusion of its theoretical, consequences, ceases to be a platitude and becomes a tremendous paradox. And I do not see that it is sufficient proof of the paradox to cry to those who boggle at it, "O fools and slow of heart to believe what the prophets have written". As an illustration of this ambiguous use of the new catch-word, I find that in Mr. Schiller's present utterance the meaning of "practice" is apparently at once to be widened to include what myself and others "imagine" to be the disinterested pursuit of "useless" knowledge, and narrowed down to exclude certain unspecified philosophical doctrines which Mr. Schiller dislikes. In all soberness, Mr. Schiller seems to me to come dangerously near making "practically applicable assertions" mean neither more nor less than "those assertions which I like to admit, and no others".[1]

[1] Properly speaking, the former consequences are consequences of the 'truth' itself, the latter consequences of an individual's *belief* in the

When I am told that "a truth has consequences, and what has none is meaningless," I do not find my perplexity as to the real meaning of the new faith, if it has any one fixed meaning, sensibly lessened. For first of all I want to know what you mean by "consequences". Do you mean *logical* consequences, assertions which are *implied* by the 'truth' in question and ought to be recognised as following from it, whether they happen to have been actually drawn or not? Or do you mean actual *effects*, modifications of the stream of events which are *caused* by my belief in the 'truth' in question? Or do you mean both of these very different things at once? In the first sense of the word 'consequences,' clearly what has no "consequences" must be meaningless, since it cannot be a proposition at all,[1] and only propositions have a meaning. Thus once more the great revelation turns out to be an idle platitude, and we find that the latest oracle has followed the well-established tradition of oracles; it has 'paltered with us in a double sense,' has 'kept the word of promise to our ear, and broken it to our hope'. In the second, on the other hand, the oracle's utterance acquires significance, but only at the cost of a *petitio principii*.

And there is a more serious difficulty behind. In all these senses of "consequence," not only truths but falsehoods have consequences. A falsehood has its logical "implication" no less than a truth; in fact, in the sense of "implications" current in the calculus of statements, every falsehood implies all assertions whatsoever. Also, as history shows only too plainly, falsehood, no less than truth, often has an effect upon human action. So I am compelled to ask the philosophers who tell me that truth is all an affair of consequences, "*What* consequences do you mean?" How do the consequences of truths as such differ from those of error as such? And on this all-important point Mr. Schiller's latest manifesto does not seem to afford any guidance. For all that he tells us is that a significant assertion has a bearing upon *some* human interest, and that if its consequences forward that interest, the assertion is 'good' and *pro tanto*[2] "true"; if they thwart it, the assertion is 'bad' and 'false'. But surely it cannot be enough to say that assertions are good and true when their consequences forward *some* human interest, unless we know more definitely *what* human interest is meant. (So in ethics, it would at least be a paradox to say that an act is 'right' if it gratifies *some* human

'truth'. Prof. James and Mr. Schiller appear to me habitually to confuse these two fundamentally different things. In fact, I believe the course of future discussion will gradually make it manifest that the whole plausibility of their doctrine results from the inveterate habit of giving psychological—and therefore irrelevant—answers to logical (or, if you prefer the ugly word, epistemological) questions. See on this point my paper in the *Philosophical Review* of May, 1905, pp. 265-289.

[1] For all propositions 'imply' other propositions.

[2] Surely again it would be in place to ask, 'Pro *quanto?*' As the principle stands it appears to lead straight to the old sceptical view that no assertion can be false.

desire; the question, '*What* desire?' seems at least a pertinent one.) If Mr. Schiller would reflect a little on this point, I think he would begin to see why some of us believe that the practical consequences of the wholesale application of his principle to conduct would be morally unfortunate.

Let me illustrate what I mean, in the right Socratic fashion, by considering the working of the principle in a simple case, one of a kind which I know to be not uncommon. I am, we will suppose, a doctor with a family to support in a country town where there are a number of well-to-do *malades imaginaires*. If I humour these persons cleverly, listening with sympathy to their narratives, and hinting constantly that they really are ill and delicate, they will become permanent paying patients, and my legitimate human interest in making an income will be forwarded. If I tell them they have no disease but idleness and selfishness, they will go off to my rivals, and the interest in making an income will be thwarted. Hence, if Mr. Schiller's doctrine is to be accepted as it stands, it seems we must say, The first of the two statements here suggested is true and good, the second false and bad. But will any "over-zealous controversialist" really say this? Or, if he does, is he entitled to bewail the "strange narrowness" of his critics, or to talk of 'painful revelations' when they describe his views as leading to sordid results?[1] Again, can he reasonably complain, if in view of these singular logical consequences of his principle, his curious qualifying phrase '*pro tanto* true' is suspected of being designed in case of need to cover an escape by the back-door from an untenable position?

If Mr. Schiller would reflect seriously on some of these inferences from his doctrine, he would, I think, cease to find it so inexplicable a mystery that the doctrine of himself and Prof. James has not given universal satisfaction. And I do not think the gain in appreciation of his opponent's meaning would be too dearly purchased by the sacrifice of some part of his stock of pious "indignation".

Mr. Schiller's second reference to myself may be dismissed much more briefly. It occurs on page 238 where I am once more rebuked for a "tendency to suppose" that "what I imagine to be a 'disinterested' interest in 'pure' thought, and 'useless' knowledge, and a (presumably unreciprocated) affection for Absolutes are somehow not to be counted as cases of emotional interest". I am not aware

[1] I could wish, to take a more important example, that Pragmatism would explicitly declare whether it does or does not countenance the principle of Pascal's famous "wager". Prof. James (*Will to Believe*, pp. 5-7) appears to reject the principle on the ground that he personally does not think the existence of Pascal's deity credible. But the real problem is whether, if a man thinks there is one chance in ten million of the existence of such an almighty fiend, there ceases to be any moral turpitude in his safeguarding his 'eternal interests' by conformity. On this point I should like to express my absolute agreement with Mr. Benn's attitude in his recent essay on the "wager" (*International Journal of Ethics*, April, 1905).

of having ever made any statement in the least like what Mr. Schiller here imputes to me. That devotion to knowledge may be disinterested in the sense of satisfying no further incidental interest beyond the desire to know itself, just as devotion to a moral end may be, and ought to be, disinterested in the same sense of detachment from extraneous interests, I certainly have maintained, and do still maintain. But I believe it would puzzle my critic to produce a reference to any passage in which I have denied that the desire to know is itself an emotional interest. In any case Mr. Schiller's present criticism seems quite inconsistent with his former assertion (MIND, N.S., No. 52, p. 541) that in my *Elements of Metaphysics* the 'Absolute' itself is introduced as a mere emotional postulate. Still that assertion was itself a mere mistake, and, for anything I know, it may be a doctrine of Mr. Schiller's 'new' logic that whatever is inconsistent with an untrue proposition is necessarily true. To myself it still appears true that two statements may be mutually incompatible, and yet both be false, and I believe this is the case with Mr. Schiller's strictures upon myself.[1]

With Mr. Schiller's concluding depreciation of creeds, dogmas and a canon of philosophic orthodoxy I am glad to find myself in complete accord. But I must remind him that it is he, and not we, who stands most in need of the warning. The 'Absolutists' have at any rate attempted to give reasons for their beliefs, and may fairly claim that, if their reasons are adequate, their doctrine should be accepted, if they are inadequate, the inadequacy should be exhibited by some more conclusive method than the wholesale employment of 'dyslogistic' epithets. In such a claim I can find no trace of the spirit of dogmatism. It is Mr. Schiller himself who manifests the dogmatic temper when he tries to foreclose investigation by a *Machtspruch*, and stultifies his own declaration for the freedom of prophesying by combining with it a pontifical excommunication of the philosophies he happens to dislike. To such a Thrasymachean ὧν ἐγὼ ἀπεῖπον τούτων τι ἀποκριτῇ; I for one can only reply with Socrates, οὐκ ἂν θαυμάσαιμι, εἴ μοι σκεψαμένῳ οὕτω δόξειεν.

P.S.—The foregoing pages were already written when I received a copy of Mr. Schiller's polemic against myself in MIND, N.S., No. 55, pages 348 ff. To this latest exposition of the truth as it is in Prof. James, I should not feel inclined to make any special reply, as I can find in it no solution whatever of the logical difficulties by which I have been forced to choose between attributing to Mr. Schiller's main revelation either a sense in which it is hopelessly

[1] I altogether fail to understand how any one can charge either my *Problem of Conduct* or my *Elements of Metaphysics* with neglect to emphasise the importance of emotion and the non-cognitive aspect of experience generally. If Mr. Schiller seriously wishes his readers to take me for an extreme 'intellectualist' in my general philosophical position, I must suppose he is either unacquainted with my writings or presumes his readers to be unacquainted with them.

ambiguous or one in which it is false. Indeed, on page 359, where he ascribes to the pragmatist the sweeping conclusion that "the useless is untrue," Mr. Schiller seems to go much farther than I for one could ever have expected towards admitting everything for which I have contended in my *McGill University Magazine* article, as well as in the more recent paper in the *Philosophical Review*, in which I have attempted a more formally complete exposition of my present views. The tone of Mr. Schiller's criticism, however, unfortunately, is such as I cannot pass over without some comment, inasmuch as it contains what to my mind amounts to a serious imputation upon my personal honour. That Mr. Schiller should take the opportunity of the publication of my book to repeat the articles of his belief and to advertise once more the existence of his own sect is a proceeding to which I can have no right to object, but when he goes on to accuse me in plain terms of having made extensive borrowings from the special views of his friends and then so concealed the conveyance of their property that the sources of my plunder are only allowed to be indicated in one or two passages, 'apparently by an oversight,' as he charitably conjectures (*loc. cit.*, p. 355), I feel bound, as an honest man, to repudiate the charge with some warmth, all the more as Mr. Schiller clearly does not mean to be offensive, and is apparently unconscious that his controversial methods are such as to give serious ground for offence to a scrupulous mind. I must therefore take this opportunity to make some reply at least to the opening paragraphs of Mr. Schiller's attack.

And first I desire to state as plainly as I can, and in such a way that any disproof of my statement will justly expose me to the charge of deliberate untruth, that the "pragmatist" doctrines were never in my mind throughout the composition of my book, except in the one or two passages where they or their champions are directly and unambiguously referred to either in the text or in the accompanying notes. Nothing was farther from my mind than the production of an anti-pragmatist partisan manifesto. Nor had I any notion at the time of writing that I should subsequently be led by the accident of my presence in Montreal into taking any more direct share in the controversy. No reader of my book who has observed my treatment of authors to whom I am really under an obligation, such as *e.g.* Prof. Royce, will, I hope, lightly hold me guilty of the miserable meanness which appears to be imputed to me by Mr. Schiller.

Next I must examine the particular instances of alleged borrowing brought forward by Mr. Schiller. In doing so, I think I shall have little difficulty in showing that they all fall into two main classes. Some of them are commonplaces of philosophic thought, the peculiar property of no particular sect or school, and in more than one case, as ancient as Plato and Aristotle. Others are mere misapprehensions, where a sentence by isolation from its context is made, unintentionally of course, to wear a "pragmatist" guise,

which is seen not to belong to it the moment it is read with attention to the general connexion of my argument.

Mr. Schiller begins his list by the remark that (*loc. cit.*, p. 352) the most striking of my "innovations" is my "constant use of the language of purpose and teleology," a use which he seems to think almost concedes the main position of *Humanism*, though he is dissatisfied with the working out of my conception of purpose in detail. Now I suppose Mr. Schiller himself will hardly go so far as to claim that the categories of end and purpose are special discoveries of those whom he calls the "new" philosophers of the last twenty-seven years. For my own part, I had always imagined that I had learned the importance of these categories for our speculative thought long ago from the study of sources so familiar as Plato and Aristotle, and in more recent times Leibniz, all three philosophers who fall under the ban pronounced by our 'new' creed-makers upon the benighted "Absolutist". If I were asked to produce a single "source" for my teleological way of thinking, apart from the writings of these philosophers as a whole, I do not know that I could find one, but, if I could, it would probably be the famous chapter of the *Phædo*, so much admired by Leibniz, on the distinction between ground and accessory conditions (*Phædo*, pp. 98-99). In the working out of the bearing of this teleological conception upon our views of mechanism as an aspect of the universe, the only contemporary writers to whom I am conscious of any special debt are Dr. Ward and Prof. Royce, and in their case I have, I trust, made distinct and repeated acknowledgment of my obligation.

(2) Mr. Schiller's next instance of unacknowledged conveyance from the "new" philosophers is a sentence in which I have spoken of metaphysics as arising from an "instinctive demand of our intellect". Now in writing these words I imagined myself to be translating *verbatim* the remark with which Aristotle opens the *Metaphysics* that all men τοῦ εἰδέναι ὀρέγονται φύσει, and to be echoing in part at least the *mot* of a living philosopher for whom Mr. Schiller has been singularly fertile in devising opprobrious names that "Metaphysics is the finding of bad reasons for what we believe upon instinct, but to find these reasons is no less an instinct".[1] And I may fairly appeal to the common sense of our readers to decide for me how far the simple assertion that we have an instinctive desire for truth commits him who makes it to the doctrine that truth is exclusively practical and that 'the useless is untrue'.

(3) The next point on Mr. Schiller's list is my insistence upon the presence of Postulates in Science, a fact which a man need be no 'Pragmatist,' I conceive, to find sufficiently patent. But it is just in this very matter that my divergence from the views of the

[1] It is, of course, mere controversial misrepresentation to exhibit either Mr. Bradley or myself as specimens of the mere or extreme intellectualist position.

friends of postulation ought to be most apparent. For it is a characteristic contention of my book that metaphysics at least contains *axioms* which are logically distinguished from practical postulates of every kind by their character of self-evident truth. To give the 'Pragmatist' an opening I will go even further than this. I maintain that, setting all questions of metaphysics and its legitimacy entirely aside, there is in existence at least one undisputably genuine science, *viz.*, Arithmetic, which contains no postulates whatsoever. At least if it is contended that there are in Arithmetic somewhere genuine postulates, *i.e.* principles "which cannot be logically justified" but are "made because of their practical value and depend for confirmation on the success with which they can be applied," I desire, to borrow the phrase of Hume, "that they may be pointed out". Until they are pointed out, I shall be in good company—including that of the great David himself, in regarding the doctrine that all truth is in the end postulatory as refuted by the mere fact of the existence of a science of number.[1]

(4) Mr. Schiller traces a still more far-reaching indebtedness to his friends in two sentences of mine,[2] in one of which thought is incidentally spoken of as an *instrument*, an expression which apparently reminds him of similar phraseology employed by certain American pragmatists, while in the other the intellect is referred to as an "intermediary between a lower and a higher level of immediate apprehension". The connexion of this later passage in Mr. Schiller's mind with Pragmatism is a mystery which I have not yet unravelled.

Now reference to the context of the first passage[3] shows at once that the writer has ignored its point. The remark about the futility of studying the instrument apart from its work was given merely as an objection to the attempt to study the knowing faculty apart from the actual contents of knowledge. Nothing was said as to whether the study of the contents of knowledge themselves would reveal the presence of *a priori* principles, and the approval expressed by Mr. Schiller for the empiricism which he reads into the passage is consequently undeserved.

As to the more specially pragmatist developments of the "instrumental" conception of thought, I can only say that they were not

[1] I take this opportunity of stating that the last passage from my book quoted by Mr. Schiller on p. 353 of his article (in the text)—the reference by the way should be p. 200, not 230—contains an implied admission of the Kantian antinomies of space and time to which I should not at present wish to adhere. The whole section of my book there referred to is vitiated by certain vestiges of the traditional Aristotelian objection to the actual infinite, and its statements consequently should be received with the gravest distrust. The recent invalidating of the antinomies however is a point in favour of the rationalist against the modern Protagoreans of 'Humanism'.

[2] *Loc cit.*, p. 354.

[3] Of course it must be understood that Mr. Schiller has carefully supplied the necessary references.

before my mind in making these observations, for the very good reason that I was unaware at the time of writing of the use which had been made of the word "instrument" and its connexions by Mr. Schiller's friends. And I may observe that there seems to be some difference between calling thought an instrument of science and calling science itself an instrument to practice. In any case the remark used to be a commonplace of 'Anglo-Hegelian' lecture-rooms in Oxford some dozen years ago. As to the second passage it is taken from a qualified defence of that very mental attitude of mystical contemplative intuition which Mr. Schiller has elsewhere, if I mistake not, politely characterised as the stupefied condition of a horde of self-hypnotised fakirs, though, to be sure, as he has explained, that sentence was inspired by the need of obtaining a certain notoriety by newspaper reviews. Having now obtained, I hope, all the notoriety he desired, it appears he can afford to abandon the methods of the Aristophanic sausage-seller for a more serenely Olympian diction.

Still Mr. Schiller's newly acquired serenity of manner seems to me to have been purchased by a sacrifice of consistency. I simply do not see what the "higher level of immediate apprehension" is doing in his scheme of things at all,—the "lower level," no doubt, includes recognisably enough the realm of our every-day practical pursuits,—especially as it seems in the context to carry with it something like a belief in its object, the poor despised 'Absolute'.

Incidentally Mr. Schiller in dealing with the foregoing citations gives me credit for accepting the "teleological character of the construction of identity". If this means that I hold the view that all identity is a matter of postulation, and presumably voluntary postulation, I must observe that Mr. Schiller's interpretation of my meaning is mistaken. That we often in the physical world have to postulate an identity which goes beyond anything we can prove, I am well enough aware; in fact, as I learned long ago from Mr. Bradley, we commonly call two things the same because they are the same up to the point required for our purposes. Still the fact that up to that point there is sameness is itself a fact which we find there calling for recognition and in no sense create for ourselves by the "might of postulation". Postulation of identity is, in fact, only legitimate on a basis of identity apprehended as already existing. To be sure, I remember a characteristically delicate and ingenious apologue of Edwin and Angelina in one of Mr. Schiller's own publications,[1] in which this truth appears to be forgotten, but I have always wondered that Mr. Schiller should not have discovered that his chaste and affecting story has, to say the least, a doubtful moral. And when one comes to deal with the concepts of the pure sciences, the last vestige of postulation seems to disappear from the recognition of identity. I do not postulate by the "might" of some great and glorious faculty of volition that

[1] *Personal Idealism*, p. 98.

"two" is identical with "the only even prime number," or that six and four are ten, because it suits my convenience that these things should be so. I simply see that they are so, and there is really no more to be said about the matter.

(5) Finally, Mr. Schiller claims to have caught me in the very act of lapsing into the crude empiricism which is, it seems, all that Pragmatism has to offer by way of a theory of knowledge. In proof of this alleged inconsistency three sentences of mine are quoted. The first is the saying that "the real is experience and nothing but experience," and this sentence at least is, I claim, absolutely irrelevant for the purpose to which my critic puts it. For empiricism is not a theory as to what reality consists of, but a doctrine of the method to be pursued in investigating reality. Hence it would be quite possible to maintain that nothing is real but experience, and yet to hold that this conclusion itself must be based on other than empirical grounds, in fact, to be at once an experientialist in one's metaphysic and a rationalist in one's logic. And this is the very position I have attempted, I do not know with what success, to defend. The other two quotations are more relevant, but their whole meaning is seriously perverted by my critic's exegesis. In one I say that proof of an ultimate truth can only be given by making trial of it, a doctrine which, until enlightened by Mr. Schiller, I had always vaguely supposed myself to have got from reflexion upon the Aristotelian doctrine of the νοῦς which is τῶν ἐσχάτων ἐπ' ἀμφότερα,[1] and the connexion of 'dialectic' with the axioms. The statement does no doubt at first sight look like empiricism, but Mr. Schiller has concealed the all-important point that the kind of trial referred to in the context is a purely logical and *a priori* one, and consists in the attempt to discover whether the denial of the suggested principle leads to logical contradiction. Whether this is after all the correct theory of the logical nature of axioms I need not now inquire. It is enough to point out the utter difference in kind between this procedure and that of a "radical empiricism" which rejects all form of proof beyond the *a posteriori* comparison of theory with the stream of apprehended events.

The third quotation is to the effect that the true character of a scientific method can only be discovered by the actual use of it. Reference to the context again shows that the remark has no bearing on the points at issue between rationalists and empiricists, but speaks merely of the futility of opening a treatise on any subject by a disquisition on the method to be employed unaccompanied by illustrative examples. The reflexion that you cannot analyse the methods of a science properly until you have them embodied before you in examples, so as to know what it is you are talking about, is a commonplace equally obvious on any theory of method. Or would Mr. Schiller hold that a man might fairly be described

[1] See in particular *Anal. Post.*, 100 *b*; *Topics*, A., 101 *a*, 36 ff.; *Ethics*, 1141 *a*, 1 ff., 1142 *a*, 25 ff.

as taking a radically empirical view *e.g.* of the axioms of geometry merely because he said that you cannot frame a theory of the logical character of geometrical reasoning until there is some geometry there to theorise about?

My reader is now in a position to judge how far Mr. Schiller has succeeded in "tracing to their sources all these doctrines of Prof. Taylor's," and with what measure of justice he has charged me with an "adroit attempt to graft the new Humanism" on a recalcitrant metaphysic. Perhaps, like myself, he will be a little inclined to wonder how Mr. Schiller can have convinced himself on such flimsy evidence that I must have been meaning him and his friends in so many passages of my book. I cannot suppose that he reached the identification by the logic of Sir Andrew Aguecheek. Seriously, I should like to appeal to Mr. Schiller to reflect a little on the discredit he is inflicting on a study for which he manifests a commendable enthusiasm by importing into philosophical discussion the tone of those religious fanatics whose simplicity divides all doctrines into the "truth" as it is in the latest popular Messiah, on the one hand, and the soul-destroying delusions of the heathen who are still in the outer darkness, on the other. And I hope I may be forgiven if I go on to appeal to some of Mr. Schiller's friends, whom those of us who cannot follow them implicitly admire none the less honestly on that account, to consider whether they are not in danger of doing an ill service to Philosophy by lending themselves too readily to a kind of mutual admirationism which has flourished before now in many branches of science, but never, that I could hear of, did any lasting good to any.[1]

Why it would not in my opinion be desirable for me to deal with the body of Mr. Schiller's paper, which, so far as I can see, merely ignores difficulties and ambiguities which I have already commented on as fully as I am able, has already been sufficiently explained. If there is a satisfactory reply to these difficulties from the Pragmatist

[1] Mr. Schiller brings (*loc. cit.*, p. 353, note 1), a minor charge against me of inaccurate quotation in support of which he gives two references to pages of my article in the *McGill University Magazine* for April, 1904. On the second of the two pages of that article which he specifies I cannot find any quotation at all, and must conclude either that his reference is incorrect or that he has by an oversight spoken of misquotation where he means simply misapprehension (not that I can admit the presence even of the latter in the context referred to). The other misquotation appears to be a jesting version of a certain remark of Mr. Schiller's *à propos* of Goethe's *Faust*. As to this sentence I have only to say (1) that it does not profess to be an actual quotation, and is not given as such; (2) that it appears to me quite within the limits of good-humoured parody, and that until I read Mr. Schiller's present article it never struck me that he himself could possibly resent it; and (3) that the remark plays no part whatever in the serious argumentation of my essay. I am sorry if so harmless a jest has disturbed Mr. Schiller's mental equilibrium, but I think I may fairly complain that the form of his reference to it is such as might naturally suggest to his readers that I had rested some part of my case against himself and his friends upon misquotations.

standpoint, I shall be glad on its production to give it the most candid consideration of which I am capable. But I must confess in advance that mere exhortations to abandon "logic-chopping" [1] —*i.e.*, a genuine scrutiny of the real implications of the doctrines put forward for my acceptance—and to see how happy I can be when I have found peace in believing will probably leave me cold.

A. E. Taylor.

[1] See the remarks of Mr. Schiller about 'logomachies,' *loc. cit.*, p. 354, note 5, and those of Prof. James anent 'logic-chopping' in Mind, N.S.

VI.—CRITICAL NOTICES.

The Myths of Plato. Translated with Introductory and other Observations by J. A. Stewart, M.A., Whyte's Professor of Moral Philosophy in the University of Oxford. Macmillan, 1905. Pp. xii, 532.

All good Platonists will welcome this book, chiefly, I think, for what its title calls the "other Observations". I do not believe that Prof. Stewart's main contention can be accepted, at least as expressing the mind of Plato himself; but I do think he has done good service to the cause by raising an issue of great importance, even if that issue should eventually be decided against him. As he rightly says (p. 1), "Myth is an organic part of the Platonic drama, not an added ornament," and we cannot, therefore, interpret Plato without determining the true place and function of myth in his dialogues. On the answer we give to this question depends, for instance, our whole view of the *Timæus*, which has had more influence on human thought than all the rest of Plato and Aristotle put together. Can we dispose of it as "merely mythical," or is its mythical form an indication that we are to look in it for Plato's deepest thought? We must be grateful to Prof. Stewart for making us face this question, even if we should be led to a conclusion almost the exact opposite of his.

Of the text and translation which make up a large part of the volume, little need be said. The text translated is, we are told, that of Stallbaum's 1867 edition, except in a few places where readings preferred by the editor are given in footnotes. If one may venture to say so, there is something νεανικὸν in thus treating all the work that has been done on the text for the last half-century as simply *non avenu*. The very existence of Schanz is ignored. It is true, of course, that Stallbaum did his work with great judgment; but his knowledge even of the principal manuscripts was quite inadequate, and his text should not be reprinted to-day. Nor are we much helped by the "preferred readings"; for we are not told whether they are based on testimony or are merely conjectural. It is not fair to bid us read ξυστατῷ for ξυνιστάμενα τῷ in *Tim.*, 33, A, without telling us that it was read by Proclus. With regard to the translation, only one remark of importance has to be made. Prof. Stewart has adopted all through an elevated and prophetic style, modelled to some extent on Bunyan, and it is certain that there

are many passages, for instance the speech of Diotima, which demand such a vehicle. As a rule, however, Plato does not keep up the strain of an inspired style for long at a time. Even in the myths, his language is normally that of cultivated Athenian society; and, when he does rise to the style of "divine and inspired persons," it is generally half in sport, and we are brought to earth again by some humorous deprecation of the 'dithyrambic'. I think that this feature of Plato's style, which Prof. Stewart's translation tends to obscure, is intimately connected with a side of the philosophical interpretation of Myth which his 'Observations' equally tend to ignore.

What, then, is Myth? In the first place, as Prof. Stewart rightly insists, it is not Allegory. Allegory is a deliberate retranslation of dogma intellectually apprehended into the language of symbol. Myth, on the other hand, is a development of the primitive "make-believe" or "story-telling" instinct; it has no "moral" and no "other meaning". A myth is a tale, interesting in itself, which arouses a certain kind of feeling, which charms us and casts a spell over us, but does not directly instruct us. The vision of the Cave in the *Republic* is an allegory, and we are right to seek an interpretation of it; the vision of Er is a myth, and its only end is to express and induce a certain state of feeling. Later ages regularly interpret myth as allegory, and Prof. Stewart acutely suggests that this process was the origin of allegory as an independent form. Further, we must remember that the parts of a myth may be allegories, and that, in the hands of a genius like Bunyan, allegory tends to become myth. But the broad distinction remains, and I cannot doubt that Prof. Stewart is right in regarding it as of fundamental importance for the interpretation of Plato.

When, however, we come to the question of the precise nature and object of the feeling induced by myth, it is more difficult to accept Prof. Stewart's view. This depends upon his own metaphysical doctrine, of which he gives us a brief sketch on pages 44 *seq.* It is a sort of optimistic version of Schopenhauer. The problem of the universe has already been settled in its own way by the 'Vegetative Soul' long before the intellect takes it up. The Intellect merely deludes itself by its conceptual solutions, which are plausible only because they mimic those solutions of departmental problems which we are accustomed to accept from the special sciences. The true answer to the problem lies deep down in the unconscious part of our nature, and cannot be expressed in terms of thought at all. It is in 'Transcendental Feeling,' not in thought, that we come into contact with reality, with timeless existence, with "That which is and was and shall be". The 'Vegetative Soul' has nothing to do with 'existential' or 'theoretic' judgments, but only with 'value-judgments' or rather 'value-feelings'. It is to this part of us that myth addresses itself. It awakens 'Transcendental Feeling' by inducing 'dream-consciousness,' just as great poetry does. It is an appeal "from the world

of the senses and scientific understanding, which is 'too much with us,' to this deep-lying part of human nature as to an oracle". Myth gives us imaginative representation of the "Ideas of Reason" —God, Soul and the World—which are not objects of any possible experience, and cannot therefore be conceived by the Understanding. It also gives us imaginative deductions of the Categories and the Moral Virtues, which, we are told (p. 45), Plato did not distinguish explicitly from the Ideas of Reason.

Now this is very like some forms of Neoplatonism, but it can, I think, be shown that it is not Platonic. It is not Platonic to say that the Intellect deals in 'existential' or 'theoretic' rather than in "value" judgments. On the contrary, the Form of the Good is its *μέγιστον μάθημα*, and the judgment of value is its highest function. Nor can there be any "value-judgment" apart from intellect; for any such judgment necessarily implies a reference to the Good, which is known by Intellect alone. The Vegetative Soul is confined to the feelings of pleasure and pain attendant on bodily evacuation and repletion, and these must be interpreted before they can express value. There is no trace in Plato of any such doctrine as Prof. Stewart's.

The curious thing is that Plato's real teaching on the subject is to be found in a passage of the *Timæus* (71, A-E), which Prof. Stewart himself translates thus:—

> "And knowing this concerning it (the 'Vegetative Soul'), that it would not be able to understand Reason, and that even if it attained somehow unto some empiric knowledge of reasonable truths, it was not of such a nature as to give heed thereto, but for the most part would follow the ghostly conduct of Images and Phantasms by night and by day, God sought out a device against this, and put the Liver close by the dwelling-place of the Appetitive Soul, having fashioned it close and smooth and shining and sweet and bitter too, so that the thoughts which come from the Intelligence, striking upon it as upon a mirror which receiveth impressions and causeth images to be seen, might fill the Appetitive Soul, at one time, with fear, . . . at another time might make it mild and gentle, and give unto it a space of calm at night, wherein it should receive the Oracles of Dreams, meet for that which is without Reason and Understanding; for they who made us were mindful of that which their Father spake, commanding them to make the mortal race as perfect as possible; therefore did they regulate even the base part of us after this wise, that it might lay hold of truth somehow, and therefore did they establish a Place of Oracles therein."

The form of statement here is itself mythical, but it is quite plain that the mythology is very different from Prof. Stewart's. What he calls "this deep-lying part of human nature" Plato calls *τὸ φαῦλον ἡμῶν* (though this is by no means so strong an expression as the rendering 'base part' implies); we are told that what is reflected in the liver is just "the thoughts of the mind" (*τῶν διανημάτων ἡ ἐκ τοῦ νοῦ φερομένη δύναμις*); and, so far from there being an appeal from the Intellect to the Vegetative Soul "as to an Oracle," the latter was only provided with oracles at all "that it might come

into contact with truth somehow" (ἵνα ἀληθείας πῃ προσάπτοιτο). It is undoubtedly implied that, whatever truth there may be in prophecy and myth is entirely due to their being images, however imperfect, of rational thought, and this is quite in harmony with Plato's view of the things with which myth deals. They too are but images of reality. It is also quite in accordance with the attitude of ironical respect which he adopts towards everything which gives itself out as 'inspired'. It professes to be higher than knowledge, but is really lower. It is a mere makeshift demanded by the weakness of human nature. It is this which explains the feature of Plato's style which I pointed out above, and which I think Prof. Stewart's translation obscures. There is a touch of parody in Plato's prophetic language, and he loves to bring it into close contact with everyday speech, just as Aristophanes does his burlesques of tragic diction.

It appears to me that Prof. Stewart has been misled by his use of Kantian terms and distinctions. It is true, no doubt, that the myths deal chiefly with the Soul, the World, and God, and that these correspond to the three "Ideas of Reason" in Kant's system. But it is not true that they occupy the corresponding place in Plato's philosophy. So far as anything does correspond to the "Ideas of Reason," it is the Form of the Good (by no means to be identified with God), and even that differs from them in the most important respect; for Plato would never admit that it could not be an object of experience. So far as the Soul, the World, and God are not objects of possible experience for Plato, that is because they are finite and partial, not because they are ideal wholes.

The right method, as it seems to me, of determining the place and function of myth in Plato's dialogues is to study the hints—and there are many—which he himself gives us as to what is mythical and what is not, and then to examine our results in the light of those passages in which the theory of myth is discussed. If we do this, we shall, I think, be forced to the conclusion that for Plato *everything is mythical except the Ideas and* (*in a secondary sense*) *the mathematical sciences.* There are certain formulas which Plato uses again and again to mark the distinction. When the Ideas are introduced, the chief speaker generally appeals to the others whether their reality is not to be asserted in the most positive way, and his interlocutor is made to reply without hesitation that it is. We must remember that we do not possess Plato's 'acroamatic' discourses, and that the proper place for a full exposition of the doctrine of Ideas would be his lectures in the Academy. The fiction of the dialogues is usually that the speakers know all about the Ideas already and are fully convinced of the truth of the theory. The most striking instance of this is the *Parmenides*, where, though the difficulties of the doctrine are the subject of the dialogue, the doctrine itself is represented as common ground to Socrates and Parmenides. Other doctrines are introduced in a very different way. We are told that it is "not worth while for a wise man to

contend that they are true in the precise form in which they have been stated," and this is often accompanied by the remark that they have been derived from "inspired persons," "an ancient tale," or simply "somebody" (ὡς ἐγὼ ὑπό τινος πέπεισμαι, *Phæd.*, 108, C). Such language is the sure mark (σφραγίς) of a myth, and we never find it applied to the doctrine of Ideas anywhere, though the relation of the individual soul to the Ideas may be (and, we shall see, *must* be) mythically expressed. The Ideas as such never enter into a myth at all. Even in the *Phædrus* myth, they appear but for a moment, and then with their usual technical names. There is no attempt to represent them mythically or even allegorically.

Now this is just what we should expect if we take seriously Plato's quite unambiguous and often-repeated statement that the Ideas alone are completely real and therefore completely knowable. Our knowledge of them, if we have it at all, is completely adequate to its object. We know completely what 'the equal' and 'the double' are, even though we have never seen any equal or double 'things'. We know what 'the good' and 'the beautiful' are, even though there are no good or beautiful 'things' in our world. Here we have completely adequate knowledge and there is no room for myth. It is only when we come to the world of sense, the world of becoming, that adequate knowledge ceases to be possible.

If we are to understand Plato, we must start where he starts, with the reality of the intelligible; if we start from the sensible world, the way to the Ideas is barred, and we become involved at once in profitless discussions as to χωρισμός, the "hypostatising of abstractions" and the like. Now it is fortunately not necessary for our present purpose to examine how Plato was able to pass—or, if you like, supposed himself to be able to pass—from the intelligible to the sensible. It is enough for us to know that he did make the passage without, in his own view, giving up in any way his belief in the reality of the intelligible or taking refuge in a doctrine of "two worlds". As we are dealing with myth, it will be quite sufficient for our purpose to take the account of the matter which is given in the *Timæus*. The doctrine which this dialogue implies is simply that, if it is good there should be a sensible world, there will be one; the 'Idea of the Good' implies its realisation. In order, however, that this may take place, something else, identified in the *Timæus* with space (χώρα), is "necessary" as a 'receptacle' for it to be realised in. We therefore infer the necessary existence of space. This, however, is a "bastard inference" (νόθος λογισμός); for we can have no knowledge of space as such. It is a "strange form of existence," "barely credible," and partakes of the intelligible "in a very mysterious way" (ἀπορώτατά πῃ). It is not "comprehensible by thought" (φρονήσει περιληπτόν). It follows that the rest of our discourse will have to operate with an unknown quantity and can no longer be called scientific. It is at best a profitable and innocent form of 'amusement' (παιδιά), which the wise man will indulge in 'to repose himself' (ἀναπαύσεως ἕνεκα)

from the severe strain of discussing true reality. Myth is the only legitimate form for such discourse, and that is why the Soul, the World, and God are the proper subjects of myth. It is not because, like the Ideas, they belong to 'timeless existence,' as Prof. Stewart thinks, it is because they belong wholly to the world of becoming. Natural science (except in so far as it can be mathematically expressed in the light of the Idea of the Good) is necessarily mythical; all accounts of the origin, history and destiny of the individual soul are necessarily mythical; all discourse about the creation and preservation of the world is necessarily mythical.

This is surely what Plato says, and yet it is just the opposite of what Prof. Stewart tells us. He, indeed, thinks (p. 347, n. 1) that it is "going too far" to say with Couturat that the *whole doctrine* of ἰδέαι is mythical; but I do not see how he can escape that conclusion, or why, on his view of myth, he should desire to do so. Gomperz actually imagines that he is throwing light on the subject by comparing some savage theory of ghostly 'doubles' of real 'things'. I can only repeat that the Ideas are never spoken of in mythical language, though the relation of the finite soul to them is (ἀνάμνησις). They are always discussed in a simple, scientific manner, just as lines and planes are in Euclid.

Myth, on the other hand, is the appropriate vehicle for all discourse about the world of becoming. We can give no scientific account of it; we can only tell the 'fairest tale' we can. If it be asked why we should tell tales at all, the answer is twofold. In the first place, we are poets and cannot help it. We must make a picture, even if we cannot truly know. In the second place, Plato holds strongly that the 'protreptic' or educational value of myth is very great. If we are to be good men, it is above all things necessary that we should feel pleasure and pain at the right things. We must feel, if we cannot know, the goodness and beauty of human life and the world. The μῦθος λογισμός by which we infer space and the delights of mathematics will not produce this feeling in many minds. Nothing will awaken a proper sense of the goodness of the world like a noble tale of Creation, nothing will arouse us to a feeling of the momentous issue of right and wrong in human life like a lofty vision of Death and Judgment. It is all παιδιά, no doubt, just as the theory of the elements is; but it will give us pleasure unattended by remorse, and it will stir up in us that Love of beauty, goodness and truth which, once awakened, can find no rest but in the knowledge and love of the good itself. And it is here that we come upon the element of truth in Prof. Stewart's theory. It is true that myth produces Transcendental Feeling, if we are to call it so, though not in the sense that it brings us into contact with reality. Such contact, Plato at least believed, is possible only to intellect at its highest. What myth does is to transfuse our ordinary consciousness of a sensible world in space and time—a world of which the intellect knows nothing—in such a way that we may feel it to be somehow an image of the eternal which alone is scientifically knowable.

As I have said, this is the exact opposite of Prof. Stewart's view, and yet, when we come to the interpretation of the actual myths, it makes comparatively little difference to the result. It remains the fact that these myths give us imaginative representations of the Soul, God, and the World, things which cannot be scientifically apprehended. According to Prof. Stewart, that is because they are timeless; according to what I understand Plato to say, it is because they belong wholly to time, the "moving image of eternity". They give us a sense of "That which is, and was, and shall be," as Prof. Stewart says, but that is not 'timeless existence,' and Plato tells us more than once that the words ἦν and ἔσται are quite inapplicable to the eternal. The proper sphere of myth is the temporal and not the eternal, the part and not the whole, becoming and not being; what is true in Prof. Stewart's view is simply that myth deals with things which the Intellect cannot conceive, though for quite a different reason than he assigns.

Prof. Stewart has an interesting passage (p. 355) in which he points out that Aristotle's theology in *Met.* Λ is as truly mythical as anything in the *Phædrus*, and it is certain that the unmoved God who "moves the Heavens as one Beloved moves a Lover" (κινεῖ ὡς ἐρώμενον) belongs to mythology and not to science. There is, however, one great difference between Plato and Aristotle in this respect which has not been sufficiently noticed. It is only when he reaches the upper end of the scale that Aristotle becomes mythical, and that is just where Plato ceases to be so. In the description of the 'supercelestial region' (ὑπερουράνιος τόπος) in the *Phædrus* (247, C-E), the mythical (and allegorical) element is at its minimum. Its place is taken by a scientific and technical vocabulary (ἀσχημάτιστος οὐσία, ἐν τῷ ὅ ἐστιν ὄν, ὄντως and the like); while the description of the region of γένεσις is wholly mythical. That is just because Plato does not start, like Aristotle, from the world of becoming. It is all a question of the starting-point. Plato, starting from above, turned natural science into myth; Aristotle, starting from below, can find none but a mythical expression for the highest realities. That is why he identifies 'First Philosophy' with Theology, an identification which Plato would have repudiated, and that is why ecclesiastical orthodoxy could accommodate itself to Aristotle, while most heresies come from Plato. Prof. Stewart's theory of myth is, in fact, far more applicable to Aristotle than to Plato, and it is quite in harmony with this that Aristotle thinks more nobly of the 'Vegetative Soul' than Plato does, and allows far more weight to the dim inspirations of unconscious and irrational nature. In a very real sense, Aristotle is the first Neoplatonist.

To see Prof. Stewart at his best, we must study such discussions as that of the Fall and Ascension of human Souls (pp. 350 *sqq.*). This is a real contribution to a difficult subject, and the latest researches, especially those of Dieterich, have been fully utilised. We are shown how Plato treated his Orphic and Pythagorean

material, passing it on to Aristotle, from whom Dante derived *l'Amor che move il Sole e l'altre Stelle*. There is another line of tradition with two strands, one consisting of Posidonius and the *Somnium Scipionis*, the other of certain "astronomical apocalypses". What we are told of these is deeply interesting, and the theory of the development of apocalypse from sacramental ritual is most suggestive. It is impossible to go into details here, but the general result is to put Plato the mythologist into his proper historical place as one of the most important links in a great chain of mythical tradition stretching from primitive thought and practice to the *Divina Commedia*. To have shown this is, I take it, the great achievement of the book, and scholars will no longer have any excuse if they look for allegory in Plato's myths. They have their roots in something older than any philosophy and possessing a vitality which is denied to philosophical systems. That, I think, is the real lesson of the book, and it is so important that we may overlook the un-Platonic doctrine of the 'Ideas of Reason' and the 'Vegetative Soul'.

JOHN BURNET.

Philosophical Studies. By DAVID G. RITCHIE, M.A., LL.D., sometime Professor of Logic and Metaphysics in the University of St. Andrews. Edited, with a memoir, by Prof. LATTA. London: Macmillan & Co., 1905. Pp. ix., 355.

THE interest of this volume is largely biographical, or at least personal. The philosophical fragments which it contains are probably of too slight a texture to have much permanent value; but they are highly instructive as throwing a side light on the more purely speculative aspects of the thought of one who made his reputation chiefly within the domain of political theory. The light thus gained is greatly augmented and strengthened by the very well written memoir—evidently a labour of love—which is contributed by Prof. Latta.

The following sketch of Prof. Ritchie's personality, taken from the introductory memoir, seems singularly felicitous. 'His spiritual lineaments were like those which in some people make every portrait a disappointment. Those who knew him well will always, in recalling him, think first of the simple, indefinable charm which eludes description, a charm not genial in the common sense (for he was reserved without being austere), nor flashing and wayward (for though he could coin an epigram on occasion, he shone rather than glittered), but a charm of exalted sanity, the charm of one who takes you, as it were, a few hundred feet higher in thought than you had ever been before, and gives you a new outlook on familiar things. . . . It seemed to him that much error in judgment arises from making too hard a distinction between intellectual and moral virtues and defects, and he held that intel-

lectual ignorance and incapacity is in great part a result of indifference to social progress, and is thus moral in its source. His own social optimism made him an ardent and incessant worker, restlessly intent on thoroughness of thinking, impatient of abstractions and hazy generalisations, and scrupulous in his endeavour to attain accuracy of statement and reference as regards even the minutest details. But there was no hardness in his sense of duty. It was rather a buoyant and optimistic belief, springing from his living interest in human well-being and progress. For him the whole duty of man lay not in doing good things, but in doing them well, and from this deep moral conviction there passed into his life a courtesy, gentleness and frankness that seemed instinctive in its readiness and ease.'

The memoir by Prof. Latta contains also, though in brief compass, a remarkably complete and thorough account of Ritchie's general philosophical position. In particular, he brings out very clearly the fundamental importance of 'the distinctions between the question of origin and that of validity, between historical and logical method, between fact and meaning, between picturing and conceiving'. 'Ritchie's whole thought was ruled by' this distinction 'and by the problems which it raises, and the special value of his work lies in this, that he did not merely reiterate and defend it as an abstract principle, but skilfully applied it to concrete questions in new and original ways.' For instance, 'in his discussions of the problems of logic and theory of knowledge Ritchie continually urged the necessity of holding fast to the distinction between logical questions as questions of validity and psychological questions as questions of fact or origin'. But 'the problems of ethics and politics were those to which Ritchie gave the best of his thought'; and Dr. Latta proceeds to give a very full analysis of his most fundamental conceptions in these departments. 'He regarded it as a fundamental error to separate' ethics from politics 'or either of them from metaphysics.' 'In all Ritchie's thinking on these matters the governing idea is the conception of society. Social well-being is at once the ethical and the political ideal.' 'The validity of moral principles does not depend merely on society as fact, but ultimately proceeds from society as meaning. The ideal society, however, is not something cut off from the actual. It is the meaning of the society which appears and changes in actual history.' In this sense he emphasised 'the social ideal as the first principle of ethics and politics. This is what Ritchie meant when he preached "socialism" and described himself as a "socialist". He was not a doctrinaire socialist, nor did he accept as a whole any of the numerous socialist systems of recent times. But he believed profoundly in the socialist attitude as against any form of individualism, empirical or *a priori*.' 'This "socialist" belief was also the foundation of his criticism of evolutionist theories in ethics and politics. They tend to ignore the

special characteristics of human society, which differentiate it from animal communities and which are the logical ground of ethical and political principles, by transferring biological conceptions directly to ethics and politics.'

Dr. Latta then goes on to give a very interesting account of some of Ritchie's views on the most important problems of practical ethics and politics. 'One part of practical ethics is the development or enlargement of the social ideal. And along with this there must go development in the means of realising the ideal, *i.e.* development of customs and institutions.' The case of marriage is taken as an illustration. "I do consider," says Ritchie himself in a letter, "that it *is* the business of the State (supposing a well-organised State) to regulate, if possible, the birth, and certainly the education of children so as to give them a fair chance of growing up into the best possible men and women, but that, apart from that end, the State should not interfere between fully grown individuals; and that the usual opinion of society, which condemns *e.g.* George Eliot and has nothing but sympathy for people who cause the existence of children with inherited diseases and who have no prospect of giving them a fair education, provided only they have gone through a religious ceremony, is mischievous in the extreme." Again, we are told that Ritchie 'had little if any sympathy either with narrow nationalism on the one hand or with vague cosmopolitanism on the other. But he believed firmly in the ideal of the federation of the world, agreeing with the doctrine of Kant that a permanent general peace can never be secured by treaties between independent nations, but only by the establishment of a federation of self-governing states, in which there is ultimately one sovereignty and attempts at war become equivalent to rebellion.' Some interesting particulars are also given with regard to Ritchie's views on the referendum (of which he approved), on disestablishment (of which he disapproved), and on the general problems of religion and philosophy.

Apart from Prof. Latta's memoir, which is extremely interesting, the contents of this volume will probably be found by most readers somewhat disappointing and tantalising; or at least they will be best appreciated by those who consider them in close connexion with the general account of Ritchie's work and personality. Several of the papers here printed—'The Relation of Logic to Psychology,' 'The Relation of Metaphysics to Epistemology,' 'The One and the Many'—have already appeared in philosophical journals; and their value, though considerable (that on 'The One and the Many,' in particular, is written with extraordinary brilliance) is, in general, more critical than constructive. At any rate, readers of MIND have probably had opportunities of forming their own judgments on these papers before now. The other papers have, from their general nature, a more permanent interest; but their fragmentary character detracts very seriously from their value. The most important is the *Cogitatio Metaphysica*, which is 'a general statement of his

views on all the main questions of philosophy and religion'—a large subject to cover in about fifty pages. The *Confessio Fidei* (34 pp.) is an earlier treatise on a number of fundamental problems. The last and longest of the fragments (about 80 pp.) is entitled 'Moral Philosophy: on the Method and Scope of Ethics'. It is hardly necessary to state that all these writings are characterised by lucid and incisive exposition, and are often lighted up by illuminating (and, not infrequently, humorous) illustrations.

Prof. Ritchie was certainly one of the most brilliant of Green's disciples; and his defence of the general idealistic position gained peculiar force from the special qualities of his mind. His interest in the particular sciences—especially biology—was genuine and keen; and this fact helped him to define his philosophical position, in relation to the sciences, with unusual clearness. The practical and, one might almost say, matter-of-fact tendency of his thought added a certain piquancy to his support of idealism. And few have shown greater keenness in discovering the weak points in an opponent's (and perhaps even in a friend's) case. In his more constructive work, however, one has a feeling that he often breaks off just when he comes in sight of an interesting problem. Of course this fact is, in the main, accounted for by the circumstance that so many of his writings are only fragments.

The following may be given as a good illustration of the illuminating remarks that one often finds in the course of Ritchie's discussions. It is from the *Exploratio Metaphysica*, page 105. 'The Aristotelian formal cause is usually supposed, by scientific men who have read Mill's *Logic*, to be out of date. But the formal cause is exactly what we mean by a "law of nature". It is the universal or conceptual formula which is manifested in a number of particulars. And the very common habit of hypostatising "Energy," "Gravitation," "Evolution," etc., is only a recurrence to the mythological interpretation to which the Platonic doctrine of "ideas" or universal "forms" was exposed. The habit, again, of speaking of these abstractions with capital letters as efficient causes is the result of "animism"; it is so difficult to eliminate anthropomorphic interpretations even in scientific thinking.' The defence of the Aristotelian syllogism in the paper on 'Logic and Psychology' is another part of the work that seems to me to be remarkably well done. So also is the discussion of Equality in the fragment on 'Moral Philosophy' and the distinction between Illusion and Appearance in the paper on 'The One and the Many'. The general attack on Pragmatism in the latter paper is perhaps a little more of the nature of literary fireworks; but it is certainly bright and effective; and, in view of the pyrotechnical displays of some of our leading pluralists, it may at least claim the relative justification of 'answering a fool according to his folly'—if to be witty is folly. And it would be easy to point to many other passages of conspicuous power, both literary and philosophical.

On the other hand, it would not be easy to point to any actual

blunders or serious misstatements. In his general defence of idealism, I doubt whether he has sufficiently guarded against Subjective Idealism. The statement (p. 187)* that objectivity means 'validity and coherence for other selves as well as for self' can hardly be called clear. The reference to non-Euclidean geometry in the paper on 'Logic and Psychology' (pp. 150-151) seems to me to miss the point. The criticisms on Hedonism are seldom enlightening, and sometimes appear to be positively crude. It is surely, for instance, not a real criticism on any modern hedonistic theory to say (p. 299): 'If we use happiness in the sense in which it is used in ordinary language, the end is not happiness. Happiness is mainly dependent on the healthy state of the bodily secretions.' And probably one or two other passages might be noted in which the statements are somewhat unguarded or open to question. But, in general, it may be safely said that Ritchie's high reputation for careful and minute accuracy will be fully sustained by this posthumous volume.

Indeed, where there is so much to praise and so little to cavil at, I am almost inclined to retract what was said before about the disappointing and tantalising character of the contents. At any rate, it might be fair to add that, if parts are disappointing, it is largely because other parts have raised our expectations so high. I may say, however, that what I find most tantalising in Ritchie's writing is the way in which fundamental difficulties are frequently set aside by means of statements that appear to be taken as axiomatic. Thus, on page 185, he says '"Will," unless it be taken in a quite artificial sense, implies motives, which it is absurd to imagine as acting on "the Absolute"'. Does will necessarily imply motives 'acting on' some one? May not the Absolute be thought as involving process and implying an end? The movement of thought seems here to be checked by a pure assumption. It was, in the main, instances of this kind that I had in view when I said that Ritchie seems often to stop short just when he comes upon the ultimate problem. But perhaps we ought not to complain of this. An essay on a philosophical subject must no doubt involve presuppositions; and at least Ritchie nearly always makes his presuppositions very clear. Moreover, he constantly shows readiness to reconsider them, and view them in new lights. Everywhere throughout the volume there is the charm of freshness, the charm of thought in the making. We seem to be listening to a sustained conversation—almost as in one of Plato's dialogues—passing rapidly from point to point, and illuminating everything by incisive utterance and humorous illustration. It is perhaps, after all, only the superabundance of good things that one finds tantalising; as if flash upon flash of lightning kept out the sunlight. Yet it is all thoroughly coherent and scientific; and there is perhaps more to be learned from it, in reality, than from many volumes that seem more complete and systematic. But it is certainly difficult to give a connected account of its contents in a review. The

best that can be done in the end, and I can do it very heartily, is to recommend the reader to explore the book and find out its many good things for himself.

It should be added that the volume contains two excellent portraits—one showing Ritchie as he appeared as an undergraduate at Oxford, the other as he appeared in his later years.

J. S. MACKENZIE.

Der doppelte Standpunkt in der Psychologie. Von MARY WHITON CALKINS. Leipzig: Verlag von Veit & Comp., 1905. Pp. 80.

IT is not necessary to be in radical agreement with the main contention of this pamphlet to appreciate both its stimulating quality and its psychological importance. The author's central concern is to free the study of Psychology from a confusion so fundamental and so habitual that it may well be called the scandal of the introspective reason. The Psychology without a soul has long given place to a Psychology that doesn't know its own mind, but clings with perplexing indecision now to the concrete Self, now to a mere stream of conscious states. Against the distractions of this mode of treatment Miss Calkins's book offers an excellent antidote. The clearness and the thoroughness with which the remedy is presented is admirable. Within the short compass of some fourscore pages, we have, in concentrated outline, not only one Psychology, but two. For the remedy lies in keeping two legitimate treatments of Psychology clearly apart, the Psychology of psychical states (*Vorgangs-Psychologie*), and the Psychology of Self-Consciousness (*Ich-Psychologie*). Each treatment is to be consistently carried out without any assistance from the other. This does not imply that either treatment can hope, in isolation from the other, to yield a complete picture of the psychical life, but that, in the interests of true method, each must faithfully bear its own intrinsic limitations.

The statement that the two points of view admit of consistent independent development is likely, we imagine, to mislead the reader; for it might readily be supposed from what the author says, that a one-sided psychology need have no defect beyond a lack of comprehensiveness. The fact that from the view-point of a Self-Psychology, the results of the Psychology without a Self needs not only supplementation but critical revision, is, in my opinion, not sufficiently emphasised. Thus the former Psychology cannot, as Miss Calkins herself points out, distinguish definitely between perception and imagination. Again it appears to discover that a feeling of reality is essential to belief, whilst from the point of view of the Self-Psychology, this feeling is declared unessential.

The first division of the book deals with the difficult question of psychical elements. The various rival theories under this head are critically considered, and preference given to the theory which

defines an element as a constituent of Consciousness distinguishable within the total state by introspective analysis. Among the elements as so defined are included not only the sensation qualities, intensities and extensities, together with feelings of pleasure and pain, but also feelings of reality and recognition, and relational elements.

Division B is devoted to emphasising the central distinction between the two Psychologies. The most important points that are here brought out are: (1) The Psychology of Self, unlike in this respect to the Psychology of psychical states, is not a science that can utilise the Category of Causality. Causality has reference to change in time, and the Self is not an object (*Gegenstand*) in time. (2) The Self is essentially a Social Self; and the Psychology of Self, a Psychology of Self in its social relations. (3) The *method* is fundamentally the same for the two Psychologies. It is essentially introspective and proceeds by the three inductive stages of analysis, classification and explanation.

The third and last division of the book contains a rapid though trenchant discussion from each of the two points of view, of all the typical aspects of the mental life. The lucidity and systematic consistency with which this task is carried out is most striking. The section on the Emotions (*Affekte*), pages 57-66, is particularly fine. This, and the closing section on Belief, pages 74-76, which is equally suggestive, show how clearly the author has realised the significance of her own view that a Psychology of Self essentially deals with the Self in its relations to other Selves. We may notice the following by way of illustration. In all our personal activities there is at least an implied reference to ourselves or to other selves. Thus all perception and thought is accompanied by a consciousness —which is none the less effective for being vague and implicit— that any other self would, under similar conditions, perceive or think as we do. But this personal reference may become explicit and individualised, and it is where there is this *individualised* reference not only to my own self but to some other self, that we have the personal relation characteristic of emotion. I fear or love this or that person, but not any general idea of danger. So "everybody mistrusts the genuineness of a sentimental love for children or animals in general, for we all know that emotion is a relation between one individual self and another". Belief, again, in essence, is not a perception of reality but an active, personal relation of one self to another. This simple view of the meaning of belief, as Miss Calkins proceeds to point out, solves the apparent contradiction between the two ethical views that belief is a duty and that yet the will to believe is immoral. For what *is* immoral or unworthy is to believe in the reality of anything against the evidence of reason. But if belief is not a Consciousness of *reality*, but a personal recognition, however dimly realised, of the nobility of some person or ideal, the discrepancy vanishes. It may be our duty to love the highest when we see it, and in this sense to believe in it, though reason cannot assure us that we are not embracing an illusion.

The admiration which we feel for this masterly little book is not lessened by what we conceive to be the limitations of the treatment. Thus, in the first place, the twofold *standpoint* is not a twofold *method*. Whichever standpoint is taken, the method remains introspective and inductive; and the psychical life is studied as 'phenomenal'. In this respect the book may be taken as an application and extension of the views embodied by Mr. Bradley in his article on "Phenomenalism in Psychology" (MIND, Jan., 1900). The problem of a twofold psychological *method* (1) inductive, (2) teleological, is in fact left entirely undiscussed. The author recognises that the Self admits of philosophical as well as of psychological treatment, but she has said nothing to meet the objection of a critic that a philosophical treatment may be psychological as well, and that a full discussion of psychological standpoints should include a discussion of a conception of a philosophical Psychology with a teleological method.

Miss Calkins, as we have pointed out, refuses the assistance of the category of Causality in developing the Psychology of Self, on the ground that the Self is out of time. But if this is so, it is hard to see how it can be treated as a phenomenon by the ordinary methods of Natural Science. In the interests of clearness it is essential that the substitute for Causality should be clearly pointed out. And this is the more imperative as it is now commonly recognised that the true source of the Causality-category is in the very personal will that is here supposed to be able to dispense with it. A discussion of this point might be found to lead to the conclusion that a Psychology of the Self must in last resort be a teleological Psychology, requiring a teleological method. Finally, the failure of the author to analyse the significance of the introspective process upon which she relies throughout, leaves it undecided whether there may not be a deeper point of view for psychological treatment than either of the two standpoints considered, the point of view, namely, of the personal experient *quâ* experiencing subject, and whether this point of view may not be found to coincide with what we have called the teleological point of view. One would like to know in what sense Miss Calkins supposes the Introspection of Self to be possible? The Self is a subject, and is it possible, we ask, to introspect a subject (which is not an object) in the same sense as we introspect some sensational quality which, though psychical, as Prof. Stout would put it, is not subjective?

But behind all these questions lies the excellence of the treatment that suggested them. In the present welter of psychological method, Miss Calkins's book should prove of real assistance to those who are seeking for a secure footing and for safe guidance. It is eminently lucid, precise and suggestive, and can be most cordially and unreservedly recommended.

W. R. BOYCE GIBSON.

VII.—NEW BOOKS.

About Dreaming, Laughing and Blushing. By Sir ARTHUR MITCHELL, K.C.B. Edinburgh and London : William Green & Sons. 1905. Pp. 157.

THE three topics which are discussed by Sir Arthur Mitchell in this little volume offer some of the most difficult problems both to psychology and biology. Their intrinsic interest is here enhanced by the fact that the author has had wide experience of mental disease, and therefore of the correlation between mental states and bodily expression. His treatment of the subjects is unconventional, but at the same time thoroughly scientific ; he never goes beyond what he has himself observed or verified. At the end of each article is a short summary of the conclusions which have been formed, and a useful bibliography is added at the close of the book.

The most controversial of the three articles is the first,—on Dreaming. Briefly, Sir Arthur holds that dreaming is a temporary state of mental disorder, involving absence of will control, and diminution of the moral sense ; that this state is beneficial, since the exercise of the will, which is the cause of mental fatigue, is in abeyance ; and that dreaming almost certainly takes place continuously during sleep. Dreaming is thinking, uncontrolled by will, and *thinking* is coincident with, and perhaps a necessary condition of *living*, in man, just as are breathing, and the circulation of the blood. As Sir Arthur admits, this proposition is not capable of absolute proof, but neither is its contrary. I am not sure however that all his arguments hold. One of these is that whenever he sets himself to observe his mental state on emerging from sleep, he *always* finds a dream present. May not the resolve to observe have some effect on the *manner* of waking,—forcing the consciousness, as it were,—just as the resolve to awake at a certain hour has an effect on the time of waking ? The theory will no doubt be eagerly accepted by believers in the "subliminal consciousness," but Sir Arthur is not himself one of them ; he is not convinced that orderly, *i.e.*, will-controlled, thinking occurs during sleep, although there is between the orderly thinking of wide-awake life, day-dreaming and sleep-thinking, only a difference of degree, not of kind. One of the chief difficulties of the theory, indeed, is its view of the will as in a sense external to thought ; true, it has high psychological authority for that. One of the many interesting suggestions which occur in this article is that momentary sleeps are much more frequent in *waking* hours than we believe, and that the dreams which come in these momentary breaks in waking life may explain many of the supposed apparitions of the dead. A person in one of these short sleeps, of which he is unaware, has the dream-vision of a deceased friend, and waking immediately after, believes he has really seen the friend. The explanation, if valid, might be extended to the visions of spiritualistic séances, and others of that type.

Laughing, like dreaming, is also found to correspond to a temporary state of mental disorder, which is beneficial rather than harmful: in the mental state from which laughter issues the will is again in abeyance, and with it the moral sense is affected. Laughter does not always, or even generally, proceed from a purely joyous state: there is more often a touch of malice, or of meanness, or the like, in the feeling which excites it. Sir Arthur finds the phenomenon of laughter,—*i.e.*, the physical movements in which the mental state is expressed,—inexplicable, as also the fact that precisely the same physical expression may be produced by the act, or even by the *threat* of tickling. The two sets of phenomena cannot be distinguished from one another, yet the one is pleasant and its continuance desired, the other unpleasant, and its continuance avoided. Perhaps the author sets them in too strong contrast one with another. It is hardly true, *e.g.*, that "the laughter which follows tickling is not the expression of a mental state coincident with, or antecedent to, the act of tickling. It is induced by a physical operation" (p. 51). After all, the laughter does not ensue unless the tickling is *felt;* it is a reaction to a certain sensation-mass, and may be called the expression of that mental state: on the other hand, it is at least not unreasonable to find an analogy between the sensation of tickling and the feeling which arises on the perception of a ridiculous scene. Again, the effect of inhaling nitrous oxide mixed with air, which Sir Arthur regards as a third and distinct kind of laughter, may be only an indirect effect of the gas. The latter may paralyse the control-centres of the laughter-reflex, so that laughter ensues upon the slightest sensation. We are all aware of moods in which laughter arises far out of proportion to the cause. In this article there are some useful notes on the natural history of laughter: its occurrence in animals, in man at different ages, in the blind, in blind-deaf mutes, etc.

Blushing offers perhaps the most inexplicable phenomenon of the three: it has no apparent *raison d'être*, serves no purpose that we can discover in the economy of life; yet it is universal in man, is unlearned, —for it occurs in the born-blind, and in blind-deaf mutes,—and it also can be produced by the action of a special drug. Here again we have, according to Sir Arthur, a mental disorder, which, although not perhaps beneficial, at least does not harm the subject; but in this case the disorder follows rather than causes the physical appearances. The mental state of which blushing is the outcome is said to be shame at the observation by others of some, real or supposed, unbecoming action on our part. But is there not a blush of surprise, of sudden joy? Perhaps the true mental correlative of the blush has still to be defined. It suggests to the author that possibly every mental state has some correlative physical outcome of a *definite* kind, although not necessarily on the surface of the body, while conversely every bodily state has probably its special mental correlative. Some interesting illustrations are given from his experience of insanity.

J. L. McIntyre.

Primitive Traits in Religious Revivals: a Study in Mental and Social Evolution. By Frederick Morgan Davenport. New York and London: Macmillan & Co., 1905. Pp. 323.

Prof. Davenport holds that religious movements of magnitude have often assumed a mode which has been termed sympathetic likemindedness, and the predominant mental characteristics of a population under its influence are suggestibility, imitativeness, imagination, and emotion.

These are exceedingly primitive and probably universal mental traits, and combined with them are nervous instability and a great lack of inhibitive control. The author gives examples of what he terms 'normal nervous instability' among certain Siberian tribes, but he could have amplified with advantage his meagre reference to the *latta* of the Malay peoples who, however, are by no means "artless, unsophisticated children of nature". The bulk of the book is devoted to unbiased but sympathetic accounts of the Ghost-dance of the North American Indian, the religion of the American Negro, the Scotch-Irish revivals in Kentucky in 1800 and in Ulster in 1859, the New England awakening under Jonathan Edwards which began in 1734 and lasted till 1750. The Scotch-Irish revival in Ulster was imitated from America, but that associated with the name of John Wesley was at first independent of American influence, though Edwards' account of the movement and of the wonderful 'bodily effects' was read by John Wesley in 1738, and a great outburst of emotional enthusiasm with bodily movements associated with physical and mental agony subsequently resulted from the preaching of Wesley. The descriptions of these and other revivals afford material for the student, though possibly they might have been extended with advantage. The author has also attempted to place before the reader the sociological condition of the people at the time of the appearance of the several evangelists.

The author says he has "endeavoured to present a sociological interpretation of religious revivals". He belongs to that school of social psychologists who are content with the use of such vague terms as suggestibility, imitation and the like, in lieu of an explanation which is the result of a more exact and fair analysis.

The explanation of the phenomena of revivals which he offers is that they are due to "mental and nervous instability," in other words to the power of being swayed by emotional excitement. This he regards, probably rightly so, as a primitive trait; but the explanations he offers are fairly obvious, they have been recognised by others, though they may not have been translated into technical phrases. Speaking generally, it is in the main true that savages have little power of emotional control, but we constantly find primitive peoples who make a point of not expressing certain emotions, and they may even undergo a definite training to this effect. The lower or the less educated classes of civilised communities often have less power of control than many so-called savages, and it is among such that revivals spread like wild-fire. The power of controlling the emotions is one of the signs of civilisation, and the greater is this power the less likely is religious awakening to manifest itself in bizarre actions.

One cannot help feeling that the book would have had a greater value if the author had paid more attention to primitive religions, a field which contains much instructive material for the psychologist.

A. C. Haddon.

Le moralisme de Kant et l'amoralisme contemporain. Par Alfred Fouillée. Paris: Félix Alcan, 1905. Pp. xxiii, 375.

The present work of M. Fouillée is a critical study preliminary to further ethical work of a more constructive nature. In it he examines two extreme types of ethical theory which stand in the way of a true ethical synthesis—on the one hand, the *a priori* formalism of Kant (which would appear to be much more a living force in France than in this country), and, on the other, the diametrically opposed type of ethical, or rather anti-ethical, theory, which is exemplified by Hedonism, or again by Nietz-

sche's glorification of might, and by which the conception of duty, so all-important for Kant, is ignored or boldly rejected. The real thesis of the book is that these two extremes have their common root in a false dualism, or radical opposition between morality and actual human nature. The difference between them is, that, whereas Kant infers that actual human nature must be suppressed in order that a transcendental moral law may prevail, the opposite type of theory regards this law as a fiction with which actual human nature is at variance.

The part that deals with Kant occupies more than half the volume. After an introduction designed to bring out by contrast the peculiar character of the Kantian ethics, M. Fouillée proceeds to examine critically the argument of the *Critique of Practical Reason*. The discussion deals successively with the conception of a pure practical reason, which is submitted to a lengthy criticism, the conception of a formal imperative, and finally the conception of freedom. In spite of the evident care which M. Fouillée has devoted to this part of his argument, and the somewhat diffuse elaboration with which he has developed it, it seems to me the least effective part of the book. The questions at issue between a formal rationalism like Kant's and any teleological ethics are so broad and fundamental, that one expects a criticism of corresponding breadth, a criticism such as M. Fouillée's own thesis above-mentioned suggests. What he actually gives us, however, is a criticism of a highly technical nature, which requires a constant reference to the scholastic details of the Kantian system. And, even apart from this mistake in tactics, I think the technical criticism itself will not appeal to present-day disciples of Kant as a really searching or successful examination of the master's teaching. In spite of M. Fouillée's close attention to the details of Kant's ethical system he seems to show too little sympathy with and appreciation of its significance as a whole. A single instance must suffice. Referring to Kant's description of our consciousness of the moral law as a "fact of reason," M. Fouillée asks: "Comment peut-il y avoir dans la raison pure un fait, fait qui n'a rien d'empirique, qui n'est même pas un fait veritable? Quel *fait* peut établir le *pouvoir* de causalité qu'on attribue à la raison pure? Il n'y a devant nous qu'un seul fait, à savoir que nous, hommes civilisés et *socialisés*, nous *concevons* un devoir, lui attribuons un pouvoir de réalisation par notre intermédiaire, et éprouvons une *impulsion* corrélative, qui réussit en une certaine mesure. C'est cette conception, cette impulsion et ce pouvoir qu'il s'agit précisément d'examiner, pour voir s'ils ne s'expliqueraient pas autrement que par la causalité supra-sensible et par l'objectivité d'une loi formelle universelle. Il faudrait prouver que c'est bien la raison *pure* qui *cause* à elle seule la détermination de la volonté appelée devoir. . . . Il faudrait prouver que c'est bien la seule *universalité* de la loi qui, *indépendamment de son contenu, cause* un intérêt intellectuel et rend ainsi la raison pure *pratique par le fait;* que c'est bien la forme seule qui agit comme *cause*, pour déterminer le vouloir indépendamment de toute matière et de toute fin: tu *dois*" (pp. 55-56). If Kant has not been *trying* to prove any of these things one wonders what he is supposed to have been doing in the Analytic. But it is significant that M. Fouillée elsewhere complains that Kant does no more than analyse the conditions of the possibility of duty.

The second part of the book deals first with Hedonism, and then with the ethics of Nietzsche's "Wille zur Macht". The criticism of psychological and ethical Hedonism is brief, and contains little that is not already familiar to students of ethics, but it gives an excellent restatement of the objections usually taken to these doctrines. The remaining section on Nietzsche is longer, and constitutes an admir-

able and effective criticism of the paradoxes of that would-be revolutionary moralist. Nietzsche, says M. Fouillée, "n'est pas capable de dire deux mots de vrais sans en ajouter trois de faux". And with much clearness and point our author brings out again and again the elements of fallacious exaggeration and distortion that go to make up Nietzsche's often far from novel heresies. In numerous passages he exposes very happily the easy device by which Nietzsche and his disciples undertake to level down all moral values. All values, all actions are but expressions of the universal "Wille zur Macht," *therefore* no one of them is better than another. Forcefulness is shown as much in badness as in goodness, and it is the same forcefulness that is shown in both. M. Fouillée shows how incessantly these fallacies and ambiguities take the place of serious argument. To take only one of the many passages one might quote: "Pour toute espèce d'homme [according to Nietzsche] demeurée vigoureuse et près de la nature, l'amour et la haine, la reconnaissance et la vengeance, la bonté et la colère, l'action affirmative et l'action négative sont inséparables: 'On est bon, à condition que l'on sache aussi être méchant; on est méchant parce que, autrement, on ne saurait être bon' . . . 'L'homme bon est l'hémiplégique de la vertu' . . . Tel est le sophisme de Nietzsche, dépassant ceux de Calliclès ou de Polus, et qui eût fait la joie de Socrate. Ce dernier n'aurait pas manqué de dire:—D'après ton raisonnement, ô mon ami, l'homme n'est bien portant qu'à la condition d'être malade; une bonne santé est l'hémiplégie de la santé; bien plus, l'hémiplégie elle-même est nécessaire pour le plein et entier usage du corps."

HENRY BARKER.

L'Objet de la Metaphysique selon Kant et selon Aristote, par C. SENTROUL, Docteur en Philosophie. Louvain: Institut Supérieur de Philosophie, 1905. Pp. 240.

"Roused from his dogmatic slumber" by Hume, Kant's aim in philosophy was the restoration of certainty and peace. But in labouring for this restoration the wizard of Königsberg raised up spirits too potent even for himself to lay. Since Kant, philosophy has been like a haunted house where no man can rest. Those who have gone farthest with him have insisted on going beyond him, and have filled the house of philosophy with weirder and still weirder spectral forms. Then has been sounded the cry of alarm 'back to Kant'. M. Sentroul proposes a still further regress, 'back to Aristotle,' back to the philosophy of the 'plain man,' who will have it that the object of metaphysics is 'being,' that thoughts come of impressions of things, that all science and all philosophy is simply Nature revealing herself to the thinking mind, not the thinking mind imposing its forms upon an outside world, which is ultimately nothing but its own creation.

M. Sentroul is an intelligent and even sympathetic opponent, and draws the great lines of Kantian thought with a *netteté* lacking in the original, at the same time abundantly bearing out his every statement by Kant's own words. He agrees with Jacobi that the reality of the external world, so vehemently affirmed by Kant, is a "subjective reality," which means, not that things are, but that the mind is under an intellectual necessity of taking them to be (pp. 107-108). He points an interesting contrast beween the Kantian and the Aristotelian theory of perception (pp. 134-135). The bringing in of 'practical reason' to remedy the breakdown of 'pure reason' was not, according to M. Sentroul, an after-thought with Kant, but was part of his initial intention in writing the *Critique of Pure Reason*. This is argued from the *Prolegomena*

which appeared in 1783, two years after the first edition of the *Critique*. Of the peculiarity, not to say the weakness, so essential to Kantism, of this dualism of pure and practical reason, the thorough-paced intellectualist Aristotle keeps clear. But for 'practical reason' we should have had from Kant no metaphysics, neither speculative nor practical. Kantian metaphysics deal with the Absolute, with the unknowable, but not with the unthinkable, nor with the unbelievable, nay, they deal with that which man must think and believe, in virtue of those 'ideas of superior reason,' self, world, God, and again those 'postulates of practical reason,' God, liberty, immortality (pp. 198-199). Not only are we compelled to think as though these things were, but further we are driven under stress of the 'categorical imperative,' to admit them for certainties—certainties, however, of a peculiar order, not truths intellectually discerned and evidenced, but practical needs of our nature (pp. 207-208). In this re-admission of metaphysics by a side-door after they have been ejected by the main entrance, Comte and Kant act consistently together, as M. Sentroul points out in an interesting page (p. 190). Kant will ever have his admirers; it is for them to defend him against the witticism of Secrétan (quoted on p. 192): "There are two parts in the system of Kant, a science which is not true, and a truth which is not known".

Any student seeking an introduction to Kant would do well to apply to M. Sentroul. A book so pregnant with thought should have an index.

J. Rickaby.

Die Bilder von der Materie. Eine psychologische Untersuchung über die Grundlagen der Physik. By Dr. Julius Schultz. Göttingen: Vandenhoeck & Ruprecht. London: Williams and Norgate, 1905. Pp. viii, 201.

It is a somewhat curious fact that though no country has been more productive than Germany of starting-points for that pragmatist movement which is now manifesting itself so vigorously in American, English, French and Italian philosophy, yet it has nowhere been more difficult hitherto to find a contemporary thinker who employs the new mode of philosophising in its entirety. In very various ways Lotze, Wundt, Ostwald, Mach, Nietzsche, Paulsen, Windelband, Eucken, Simmel and Jerusalem have all made important and even essential contributions to the new standpoint; but somehow no one has seemed able to put them together and to perceive their full significance. Germany in short has lagged behind; in part, perhaps, because she has been strangely remiss in translating James's epoch-making *Psychology*.

In Dr. Schultz, however, we may welcome an almost full-blown, and certainly full-blooded, pragmatist, whose testimony is not the less precious because he seems to have developed his position for himself. He had shown in his remarkable *Psychologie der Axiome* how clearly he had perceived that our axiomatic principles are human postulates whose meaning lies in their relation to experience. Or as he well says in his present work, which is as lively and stimulating as its predecessor, though its ingenious discussions are so technical as to appeal primarily to physicists, an axiom is "a proposition curiously coagulated out of *a priori* postulation, arbitrary construction and empirical testing" (p. 39). He has grasped, that is, how very complex these 'self-evident' principles really are. But still there is a striking divergence from the type of pragmatism with which we are familiar in this country. Dr. Schultz considers his method apriorist, and himself a Kantian, and an opponent of positivism in science. This clearly shows that empiricism for him is still the enemy,

that it still means for him the sensationalist travesty of human cognition, and that he has not yet heard of the more radical empiricism which is voluntarist and will scorn no psychical fact as irrelevant. And so he continues to classify his theory under the old rubric as apriorism, instead of insisting that it really transcends and supersedes both of the old intellectualist classifications.

Now of course in a sense a postulate may be called *a priori*. It is something we bring to experience to illumine it. And no passive receptivity of impressions could ever have produced it. And perhaps the word *a priori* is already vague and ambiguous enough not to resent, or even to welcome, this further interpretation. Again, almost every philosopher can, if he chooses, affiliate himself to Kant, with much the same show of reason. But where is the gain? The reference to Kant imports into a system all the confusions of that great master, and to call the method of postulation *a priori* is merely to plunge in unfathomable obscurity what was pretty plain before. Nay more. The mere use of this misleading nomenclature blinds Dr. Schultz to the extent and importance of the empirical factor in his own theory. If he had gone into the reasons for our postulating, he would have seen that the apriority of our postulates is relative and rests on an empirical basis. It is an empirical fact that our nature is (or has come to be) such as to make certain demands on its experience. And those demands are provoked by the empirical nature of that experience. Our postulates therefore are not ultimately arbitrary or irrational; they can only be understood with reference to the conditions of life which suggested them and which they are intended to control. And so the ultimate tendency of the whole theory seems predominantly empiricist.

I cannot but think also that Dr. Schultz's zeal on behalf of the old conception of substance, and his consequent preference of atomism to energetics, is strategically a mistake. It brings him into needless opposition to the most fruitful and progressive tendencies of modern physics. I heartily agree of course that our immediate consciousness of self-existence has served as the anthropomorphic model for the construction of the conception of substance; also that it subsequently turns out that, as developed, it is not applicable to the stream of psychic events and that a soul-atom is psychologically useless, nay, impossible. But in a consistent Humanist this result should arouse suspicions of something wrong in a conception which thus stultifies itself. And such suspicions are promptly justified when it turns out that the material ectype of the substance-soul, the atom, is no less superfluous than its prototype. The physicists therefore of the 'energetic' school have performed a great service to science by showing that the substrate-atom may be dispensed with. But does not this destroy all substance and plunge us anew into chaos? The fear is groundless, though it might terrify those who knew no better psychology than Hume's. If neither psychical nor physical processes really exhibit to us the operation of 'substances' such as we had conceived, why not simply remodel the conception? Why not apply the name to those features in our experience which have given occasion for constructing the impracticable ideal which is the real source of all our trouble. If a 'soul' is not an unchangeable, unknowable substratum but a self-conscious stream of psychic processes, why be surprised that a 'body' is similarly a phenomenal group of physical processes, and why hesitate to call them both 'substances' in the only sense in which the word has any valid application? We shall thus restore 'substances' to psychology and to physics by the same device, and at bottom shall only be doing tardy justice to the Aristotelian conception of *ἐνέργεια*.

The differences I have discussed may seem to some to invalidate the classification of Dr. Schultz as a pragmatist; but I hardly think them so important. For they do not affect the method of his reasoning and indeed seem to be mainly differences in the use of words. Still less do they detract from the merit of his present enterprise, which aims at subjecting the conceptions of physics to sympathetic philosophic criticism. If philosophy is ever to raise herself out of the undignified position of a discarded handmaid of theology who preys parasitically on the religious instincts, it will not be by the arts of a story-teller, but by devoting herself steadily to the correlation of scientific results. And that in this direction lies a wide field of usefulness who can doubt? For in physics especially the most startling discoveries are being made. That science already believes herself to have witnessed the death of 'indestructible' matter; if she can be equally fortunate in attending its birth, she may find that the life of the universe is more nearly akin to our own than any but primitive animists had suspected, and that alchemy comes at the end as well as at the beginning of science. And in any case we stand on the brink of a great extension of that *regnum hominis* which is the final test of truth for man.

F. C. S. SCHILLER.

Elemente der Psychologie des Urteils: vol. i., *Analyse des Urteils.* Von Dr. ERNST SCHRADER. Leipzig: Johann Ambrosius Barth, 1905. Pp. 222.

In this the first volume of his work on the Psychology of Judgment the author deals with the 'analysis of judgment,' *i.e.*, with the elements that are explicitly recognisable in any single judgment. The second volume, entitled *Tendenzen der Urteilsbildung*, is to deal with all those factors and influences which, like education, society, study, etc., determine our judgments without as such appearing in any single judgment.

The fundamental Thesis of this volume is set forth in the preface: 'The experiences of error explain the difference which exists between judgment and the mechanical combination of ideas in accordance mainly with the laws of association'. In working out this idea, the author attempts to steer a middle course between Association and Psychical Activity. With Lotze and others he holds that the laws of Association are incapable of explaining judgment, mainly because they fail to account for the fact that we can withhold our assent from any combination of ideas as brought before the mind by association. From the point of view of association any combination of ideas produced by the psychological mechanism must be regarded as a judgment, which is to neglect the additional element of assent which constitutes the differentia of judgment. In short, Association fails to explain the possibility of error. It merely 'prepares the materials' for judgment. To what, then, must we ascribe the assent? We cannot, with Lotze, refer it to a special activity of the soul, for in Psychology we can only deal with the facts as revealed by introspection and self-observation, and psychical activity is not such a fact. It may for all that exist, for introspection is by no means coextensive with consciousness, and we are, therefore, conscious of many things, *e.g.*, feelings, emotions, etc., of which introspection reveals nothing. For introspection is an intellectual act, and therefore deals only with sensations and ideas (*Empfindungen und Vorstellungen*) and their combinations. But since psychology is based on introspection, its explanation of judgment must restrict itself to the facts as revealed by introspection, even though it should thereby deal only with the 'acci-

dents' and not with the 'essence' of judgment. Activity, therefore, being excluded, the question is: Does introspection reveal, besides the facts of association, some other psychological fact which may be taken as the differentia of judgment? The author professes to have found such a fact in what he calls 'the negative relation of ideas,' *i.e.*, the most primitive and simple form of the experience of error. The author illustrates the meaning of 'negative relation of ideas' by the following example: I see a distant figure and take it to be a woman. On coming nearer, however, I perceive that the figure is pushing a cart and thereby I recognise it to be a man. Here we have the partial displacement of one idea (woman) by another (man) mediated by a third (pushing a cart). There need be, in primitive levels of mental life, no explicit judgment in all this, but we certainly have all the germs of judgment. For we have the correction of one idea by another, and of this correction we are aware as a distinct experience, which remains in memory and leaves an 'idea' of itself behind. And this new idea, like any other idea, is capable of entering into all kinds of associative relations to others, and in particular it comes to accompany all combinations of ideas produced by the psychological mechanism. In other words, we no longer simply accept these combinations, but, owing to the accompanying idea of former errors, we now learn to consider the possibility of error, and therefore the possibility of withholding our assent, unless we find reasons for giving it. In this idea of former error, which thus enters as a modifying factor into the ordinary associative process, we have the beginnings of 'critical thinking'.

The remainder of the book is mainly concerned with the further developments of 'negative relation' in the higher and more complex levels of Thought. Here the author adopts Taine's theory of substitution to show, that the idea of possible error, leading to suspension of judgment and setting the machinery of association in motion to bring up reasons for or against, need not be explicitly present in consciousness, but that its place may be taken by a 'symbol,' such as a word, a gesture, or even a mere feeling, whilst the idea itself remains below the threshold of consciousness.

It is clear that the author's theories all rest on his peculiar but interesting view as to the limits of introspective self-observation, and as they will have to be judged on that basis, it may be worth while to characterise it a little more fully. It is a kind of Phenomenalism, and therefore confesses itself unable to deal with the realities of psychic life: 'we do not deny the existence of will, still less the existence of intellectual feelings. On the contrary we regard the latter as the most real elements of our psychic life. But we cannot discover them by introspection and observation. Introspection reveals to us only sensations and ideas' (p. 130), and, as we may add from other passages, the 'changes' happening to those ideas. Because of this restriction to ideas the author characterises his Psychology as 'Intellectualism' (p. 54). The point in which he passes most clearly beyond Associationism is in not merely formulating 'laws' of Association, but in assuming that the changes among ideas, and their mutual relations to each other, are themselves experienced in such a way as to leave new ideas behind, which afterwards through the associations into which they enter themselves, modify the original stream of thought. This enables him to trace back all the higher developments of thought to that comparatively simple break with ordinary association which he calls the 'negative relation of ideas'.

R. F. Alfred Hoernlé.

Der Kritische Idealismus und die Reine Logik. Von Prof. WILHELM JERUSALEM. Wien and Leipzig: Braumüller, 1905. Pp. xii, 226.
Gedanken und Denker: Gesammelte Aufsätze. Von Prof. WILHELM JERUSALEM. Wien and Leipzig: Braumüller, 1905. Pp. viii, 292. London: Williams & Norgate.

Dr. Jerusalem is a representative, perhaps somewhat eccentric and independent, of the Austrian school of the "Philosophy of Immanence," of which Mach is the best-known exponent. The present two volumes may be recommended as examples of the "Immamentist" at war and at peace respectively. The first is a vigorous polemic against the two tendencies of modern thought indicated by the title, Hermann Cohen and Husserl being the main objects of attack. The scope of the work may be gathered from the subjects of the various sections: the Psychological Basis of Kant's Criticism of Knowledge, Critical Idealism, Pure Logic, the Function of the Theory of Knowledge of the Present Day, the Function of Logic. The ground of Dr. Jerusalem's polemic is his view that Logic is or should be nothing more than a theory of the method of thought, as an instrument for the achievement of human well-being. Psychology analyses thought, History (in the wide sense) deals with its genesis and the development of complex out of simpler forms of thought: these two, then, form the only possible avenues of approach to Logic. In other words Logic is a purely empirical science, as it was with Aristotle himself. In fact we may fairly reproduce Dr. Jerusalem's opinion by saying that Logic is simply an applied Psychology. The discussion revolves about two points, the possibility of transcending the consciousness of the individual (Theory of Knowledge), and the origin, meaning and validity of abstract ideas and universal judgments (Pure Logic). With regard to the first question, Dr. Jerusalem simply cuts the Gordian knot: we do, in fact, transcend our individual consciousness in every sensation, perception, thought, and every action assumes and verifies a reality independent of itself. He is able to drive his Critical Idealists into a corner where they must either confess to Solipsism, in fact "Instantaneous Solipsism," or recant their most cherished principles: their error lies in treating of knowledge as something ultra-human, and in detaching it from feeling and from will: it is the will that first gives to things (and to other selves) objective reality: knowledge springs not from knowledge but from the will, the effort to live. In the same way the most abstract of conceptions and laws (*e.g.*, those of Mathematics) derive their validity for all normal intelligences not from the nature of thought in itself, but from *experience*: they are the result of an adaptation, more and more perfect, of our thought to the environment: their origin is the same as that of concrete knowledge: the very meanings of words, treated by Logicians as a *prius*, are, on the contrary, products of evolution. "All talk of a 'consciousness in general,' of a 'universal consciousness,' of a 'Truth-in-itself' (*i.e.*, one which remains the same whether grasped by men or by Gods), is not criticism of knowledge, but uncritical, dogmatical, arbitrary and purposeless Metaphysics" (p. 140). Such is the conclusion of this modern *Alles Zermalmender*. The tone of the volume is aggressive to British ears, but the argument is skilful and deserves attention.

"Thoughts and Thinkers" is a collection of papers of various dates (ranging from 1888 to 1905) and equally diverse topics—written mostly for the "educated public". Some are of general literary interest, as those on Grillparzer, on Naturalism in Literature, on Sophie Germain; others philosophical in the wide sense,—as on Philosophical Wonder, the Future of Philosophy, Wundt's Philosophy, etc.; the remainder belonging to Psychology and the Theory of Knowledge. The majority are

criticisms and appreciations of various psychological writings, of Meynert, Mach, Exner, etc. All breathe an enthusiasm for freedom of thought and freedom of spiritual development. The recurring strains are such as the primacy of Psychology,—as the final court of appeal in all questions of philosophy, ethics or æsthetics:—the conception of philosophy as a *Weltanschauungslehre*, not a special study ranking alongside of other sciences, but taking its place rather with religion and art;—the importance of the double method in the study of social and mental phenomena, *viz.*, psychological analysis and historical synthesis: the consistent working out of the principle that all the phenomena of the moral life are bound up with the existence of society, and could have originated only in a social community; the meaning and value of psychical processes as consisting in their tendency to preserve or intensify the life of the individual or race.

J. L. McIntyre.

Schriften der Gesellschaft für Psychologie. Forschung. Heft 15 (III. Sammlung). Leipzig: Barth, 1905. Pp. 110.

The present number of the above series of psychological publications contains two essays, the first by Dr. Baerwald, *Psychologische Factoren des Modernen Zeitgeistes* (pp. 1-85), the other by Dr. Moller, *Die Bedeutung des Urteils für die Auffassung* (pp. 87-110). Both papers have drawn their inspiration from L. W. Stern's writings, on the psychology of Individual Differences, and on the psychology of Statement or Assertion. Dr. Baerwald bases his analysis of the "Modern Spirit" on the order or kinds of difference between individual minds to which Galton, Stern, and others, have drawn attention. Thus in the classical or Goethe-period of German literature and art, the prevailing type was the 'formal,' in the modern period the 'material'. The pictorial art of the former laid stress upon drawing, upon exactness and significance of form and outline, in the modern age colour holds the higher place,—richness and splendour of colour-combinations,—while accuracy of drawing has become the mark of the Philistine. In music, the place of rhythm has been taken by melody or tone-masses, again the material or substance being valued higher than the form or figure or 'scheme'. Similarly the modern spirit has lost interest in abstract thought, and turns with preference everywhere to the concrete, the material, the practical. The former type of mind rests upon *Begriff-gefühlen*, *i.e.*, on pleasure felt in the achievement of wide, comprehensive views and principles, or general notions, irrespective of the material content on which these notions, etc., are built. The capacity to feel this pleasure guides the interest and the attention away from the particular to the Idea, from fact to law. Opposed to that type is the concrete, which finds its main interest in detail, in *exactness* and in *mass* of knowledge, without regard to its value or its significance. These main differences are worked out for the two periods in question, more especially in regard to the literatures, in a most interesting way. The sixth section, on the "Psychology of Mixed Feelings," with the applications in the later section, contains a useful discussion of the æsthetic Emotions, the feelings of the Comic and the Pathetic, the Touching and the Sublime, the Tragic and the Sad.

Dr. Möller's paper, written chiefly from the point of view of legal evidence, discusses the relative *rôles* of presentation and judgment in the 'Apprehension' *Auffassung* of an event. Especially in the case of events or scenes which pass quickly before the eye—*e.g.*, an act of violence,—there are marked differences in the actual perception or ap-

prehension of onlookers. These depend partly upon their training in *judgment*, relatively to the particular class of events. We may be conscious of what kind of event is passing, without being conscious of the details in which it differs from other classes of events, and on which our recognition must be founded; accordingly Dr. Möller assumes an "unconscious process of comparison of the present with past similar experiences"—*i.e.*, unconscious judgments. Rather we should say the decision occurs on the ground of *previous* judgments, by which a mental disposition has been established: the new impression calls the disposition into play, and the '*Auffassung*' takes place, the subject being unconscious only of its conditions in the past, not of any mental factors actually present at the moment.

J. L. McIntyre.

Über Inhalt und Geltung des Kausalgesetzes. Von Benno Erdmann. Halle: Max Niemeyer, 1905. Pp. 52.

This paper, which was read before the section for Methodology of Science at the International Congress of Arts and Sciences, St. Louis, 1904, and an English translation of which is appearing in the forthcoming number of the *Philosophical Review*, is an interesting attempt to find a *via media* between the conflicting accounts of Empiricism and Rationalism.

After a lucid statement of the psychological facts of the apprehension of succession and of 'uniformity' in succession, Prof. Erdmann tries to show that consistent Empiricism is bound to reduce causality to mere regular temporal succession. We observe certain uniform sequences in the stream of events, and beyond these uniformities we have no right to go. Indeed, Ernst Mach ('the most consistent modern Empiricist in Germany') is quoted as holding that the very terms 'cause' and 'effect' with their suggestion of a productive activity on the part of the cause suggest 'fetichism,' and that a purely temporal relation must not be interpreted dynamically. If this conclusion holds good, then, as Prof. Erdmann rightly perceives, the element of necessity on which Rationalists have always insisted, is wholly banished from causal connexions. Hence Prof. Erdmann makes an attempt to re-establish it by arguing that the necessity in causal connexions is the same in principle as the necessity underlying even the simplest judgment of perception. If, *e.g.*, we see a green expanse we are, under pain of self-contradiction, compelled to judge that the expanse is green. In that consists the 'necessity' of the judgment. Similarly, since experience presents us with the fact of uniformity, we are compelled, if we would avoid contradicting that fact, to judge that causal connexions are necessary. For uniformity, fully thought out, implies necessity, since if there were no necessity the world would be mere irregular chaos, and the conception of chaos is self-contradictory (chaos = a whole without relations). However, though the necessity of causal connexions is thus vindicated against the Empiricists, little has been gained, for the Empiricists are right in maintaining the hypothetical character of all causal connexions, so far as we build on them anticipations of the future. We know that a given cause makes a certain effect necessary—we do not know whether in future experience we shall meet with that cause again. Every causal law, therefore, on analysis reveals two elements of different value: (1) An element of thought-necessity, according to which like causes necessarily lead to like effects. This is the general and abstract law of causality. (2) An element of hypothesis, *viz.*, the assumption that in future experience we shall meet with the same causes (and, therefore, with the same effects) with which we have been familiar in the past.

The conclusion adds little to the value of the essay, for it touches but lightly on several disputed questions, and contains *inter alia* a not very successful attempt to show that necessity involves the conception of force.

R. F. Alfred Hoernlé.

Pythagoras und Heraklit. Von Dr. Wolfgang Schultz (Studien zur antiken Kultur, Heft 1). Leipzig and Vienna: Akademischer Verlag, 1905. Pp. 118.

It is almost impossible to criticise this book. It appears as the first of a series of studies on the "pre-Socratics" from a "purely philosophical standpoint". It is difficult to know what this means. We learn, indeed, that 'philosophical' is somehow contrasted with 'historical' and 'philological'; but this does not carry us much further. The problem is surely to understand certain fragments in the light of statements made by trustworthy and competent authorities who had the complete works before them, and there cannot be two right ways of doing this. As the fragments are philosophical, the philological interpretation of them is necessarily philosophical; for otherwise we should have bad philology. A 'philosophical' interpretation which is not at the same time 'philological' is nothing at all.

The account of Pythagoras is a cento of quotations from 'sources' of every date and every degree of authority. These are interlarded with fragments of Empedokles, which is quite unjustifiable. We have no right to ascribe the Orphic theology of Empedokles to Pythagoras without more ado. We might as well insert extracts from the *Phædo*. The section on Herakleitos opens with an apparently unauthorised reprint of Diels's translation of the principal fragments. Then follows a translation of the imitation in the pseudo-Hippokratean Περὶ διαίτης, strange to say, into German verse! Anything more unlike poetry than scientific Ionic prose, it would be hard to find; but Dr. Schultz, having made his version, is able to say p. 96 that the author of the Περὶ διαίτης reminds him of Goethe. The attempt to show Pythagorean influence on Herakleitos seems to me quite unsuccessful.

There are good things in the book, though they are not easy to find. They are mostly in the notes, which are mainly 'philological'. The writer assures us that he has carefully considered the question of method, though he reserves the discussion of it to a later date. This is a great pity; for it is by no means easy to see what he is driving at, and a clear exposition of his 'methodological standpoint' would help the reader very much.

John Burnet.

Ueber Störungen des Handelns bei Gehirnkranken. Von Prof. Dr. H. Liepmann. Berlin: Verlag von S. Karger, 1905. Pp. 161.

This small volume is a sequel to the author's *Das Krankheitsbild der Apraxie (motorische Asymbolie)*, in which he analysed a case of unilateral apraxia,—a rare if not a unique case. In the present book Dr. Liepmann enters into a general discussion of the nature of apraxia, criticises other recorded analyses, and insists on certain more precise definitions. He indicates the varieties of disturbed action that may occur in cases of brain disease, presents a very detailed analysis (mental and physical) of the real character of apraxia and separates it off from the ordinary forms of paralysis and paresis. From local lesions of the brain there may

result: 1. Paralysis or paresis,—loss of movement or diminution of power; 2. Ataxia,—erroneous estimates of energy, or sweep of movement, due to loss of peripheral kinæsthetic directions; 3. Loss of kinæsthetic ideas (*Vorstellungen*),—psychical paralysis; 4. Agnosie, or sensory asymbolie, which is apraxia in the older sense of the term,—defective identification of sensations, either through absence of memory images, or from obstructed combination of these with new impressions of sense; 5. Cortical blindness, deafness, hemianopia, etc.; 6. Motor (innervation) apraxia, which falls between 1, 2, 3 on the one side and 4, 5 on the other,—the movement is not in accordance with the ideational process, the cortico-muscular apparatus is in order, but is not in the service of the total psychical process; 7. Ideational Apraxia, where the movement is in accordance with the ideational process, but the latter is interrupted at the point where the *Hauptzielvorstellung* is converted into the *Teilzielvorstellung*. The relations of these activities is discussed with much acuteness and the discussion is a valuable contribution to the place of the kinæsthetic sensations or "innervation" sensations in the psychical series.

W. Leslie Mackenzie.

Théodule Ribot's Psychologie. Dargestellt von Dr. S. Krauss. Erster Teil. Jena: Hermann Costenoble, 1905. Pp. xvi, 170.

This volume is the first of a series of tractates on recent French Psychology promised by the author. It consists, for the most part, of a careful exposition of Ribot's chief psychological writings.

It is the work of a disciple, and there is a preface by M. Ribot himself in which he approves of the correctness of the account here given. What little criticism there is confines itself mainly to a reply to the objections urged by such writers as Stumpf and Münsterberg against various details in the French psychologist's theories.

For German students the book will have a distinct value. The chief omission seems to be the absence of any metaphysical analysis of the presuppositions underlying a "Psychology without the soul".

G. R. T. Ross.

L'idealismo moderno. Guido Villa. Torino: Fratelli Bocca, 1905. Pp. 452.

This is the tenth work published since 1898 by the author, who assuredly lets no grass grow beneath his strenuous tread. As in most of the others, notably in the *Contemporary Psychology* now published in four languages, he is still engaged in critically watching and summing up the trend of modern thought. Under the present title he reviews recent developments in psychology, sociology, history, ethics and metaphysics. The burden of his argument is the revolt of idealism, spiritualism, or *volontarismo* against the claims of nineteenth century positivism, *i.e.*, natural science, to be the mould and measure and philosophy of the doctrines, principles and history of mind, character, human ideas as such, and to impose its atomic, quantitative estimates on knowledge which is essentially qualitative, made up of subjective values and not predicable by scientific causation. We see the tables turned once more, and introspection, which has gone cowering under the taunt of lack of objective validity, rearing a proud crest, conscious of its intimacy with all of knowledge that is immediate, direct, certain. To it, to borrow Prof. Ward's recent utterance, belong facts, to science fictions.

The book is hardly satisfying ; nor is the author satisfied. He has but laid down his pen for a brief moment. The lines that are but opened up call for deeper work and more constructive treatment in subsequent volumes. So far we are brought up against a revival in partly fresh terms of Dualism. And whither is the substitution of 'divergence' for 'parallelism' likely to lead us? The psychologist, too, as is right and inevitable, knows his own field so infinitely better than any other, that it seems impossible for him to speak of the methods, ideals and developments of 'natural' science save as an outsider—or at best from the point of view of the science of yesterday. But the work should serve as a most useful guide to those who would follow modern, especially continental, thought.

C. A. F. Rhys Davids.

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Chile Moderno, Rrebista Mensual, Tomo 1, No. 6, Diziembre de 1903 (contains translations of H. Spencer), Balparaiso, Bara i Ka.

VIII.—PHILOSOPHICAL PERIODICALS.

PHILOSOPHICAL REVIEW. Vol. xiv., No. 3. **A. E. Taylor.** 'Truth and Practice.' [The truth of a statement is neither identical with, nor yet a determinate function of, its practical utility.] **B. Erdmann.** 'The Content and Validity of the Causal Law,—II.' [The empiristic causal hypothesis is self-destructive. The assumption of a completely irregular and relationless alternation of impressions contradicts not only our experience, but also the conditions of our thought. Hence a necessary relation is implied in the thought of a constant sequence of events, which makes the uniformly following *b* really dependent upon the uniformly preceding *a*.] **H. A. Overstreet.** 'Conceptual Completeness and Abstract Truth.' [Whatever new illumination the final category may bring, it will never be a complete alteration of meanings. Hence there may be meanings which we now possess that are true, finally and irreversibly, although we are ignorant of the precise character of the all-organising category.] **A. W. Moore.** 'Pragmatism and its Critics.' [Counter-criticism of Creighton, Bakewell, Royce and Baldwin.] Reviews of Books. Notices of New Books. Summaries of Articles. Notes. Vol. xiv., No. 4. **G. T. Ladd.** 'Philosophy in the Nineteenth Century. —I.' [Contains a statement of the problems of philosophy (epistemological, ontological, ethico-religious) as they were handed over to the nineteenth century by the Kantian Critique; and a description of the lines of movement along which attempts at the improved solution of these problems have proceeded.] **A. Lalande.** 'Philosophy in France.' [Describes the material organisation of philosophy in France, and sketches present work and tendencies.] **N. Smith.** 'Traité de l'infini créé: Translation.' [English translation of Terrasson's *Traité*, with omission of less important passages.] Reviews of Books. Notices of New Books. Summaries of Articles. Notes. Vol. xiv., No. 5. **W. R. Sorley.** 'The Method of a Metaphysic of Ethics.' ["When a metaphysical theory makes the transition from non-ethical conceptions about reality to the conception of goodness, it does so by taking into account an aspect of experience which it had previously omitted"; "a complete metaphysics cannot disregard the data of the moral consciousness". Illustration from the ethical method of T. H. Green.] **E. Becher.** 'The Philosophical Views of Ernst Mach.' **G. T. Ladd.** 'The Development of Philosophy in the Nineteenth Century.—II.' [Summarises the items of philosophical progress which may be credited to the nineteenth century, and surveys the status of the problems handed over to the twentieth.] **T. De Laguna.** 'Stages of the Discussion of Evolutionary Ethics.' [Five stages are distinguished, dealing with a supposed conflict between ethics and evolution; with evolutionary laws as giving a standard of morality; with the treatment of ethical problems in terms of the theory of organic evolution; with the assertion of the specific nature of social, and especially moral evolution; and with questions of method.] Reviews of Books. Notices of New Books. Summaries of Articles. Notes. Vol. xiv., No. 6. **W. M. Urban.** 'Appreciation and Description and the

Psychology of Values.' [Appreciation without description and description without appreciation are but abstractions and ideal limits. Hence the part to be played by appreciative differences in scientific reconstruction becomes a practical question. Now the psychology of the value-consciousness seeks to interpret. This means that a non-appreciative introspective analysis, while it may be used as an objective instrument of control, can never be taken as reality. The realities are the feeling-continuities with meaning, which are functional categories ; and functional analysis is simply the refinement of appreciative description.] **J. A. Leighton.** 'The Psychological Self and the Actual Personality.' [Suggests a method of considering the self which, as emphasising the historical factor in personality, may be called 'metahistorical,' and in opposition to the psychological may be called 'noological'.] **B. H. Bode.** 'The Concept of Pure Experience.' [Critique of Dewey. "From the fact that an erroneous doctrine of sensation and thought hems us in to the narrow circle of our own impressions, it surely does not follow that all reference or self-transcendence is to be interpreted in terms of present functional value within the experience of the individual."] Discussion. **G. H. Sabine.** 'Radical Empiricism as a Logical Method.' [Critique of James. The essential weakness of the position is that it attempts to develop a logic and metaphysics from a point of view which entitles it only to a psychology.] Reviews of Books. Notices of New Books. Summaries of Articles. Notes.

Psychological Review. Vol. xii., No. 4. **T. H. Haines.** 'The Synthetic Factor in Tactual Space Perception.' [Describes experiments undertaken with the view of restoring the tactual image (or some vaguer and more primitive tactual cue) to its spatial rights as against an undue emphasis of visualisation.] **F. Arnold.** 'Consciousness and Its Object.' [Neither by introspection nor by any hypothesis of a consciousness aware of its own flow can we have any mental state in which consciousness does not have an object, and that in the present. We do not build up the world from sensations ; rather we build up a system of sensations, etc., from the world, by abstraction from the objects before us.] **R. H. Stetson.** 'A Motor Theory of Rhythm and Discrete Succession.—I.' Vol. xii., No. 5. **M. L. Nelson.** 'The Difference between Men and Women in the Recognition of Colour and the Perception of Sound.' [Men are superior in the recognition of blue ; women possibly superior in the recognition of yellow (spectral bands). Men hear farther than women ; the right ear in both sexes is keener than the left (fork tones).] **K. Dunlap.** 'Extensity and Pitch.' [Pitch differences are directly comparable to the differences in planar or linear extent ; and their physiological condition is probably difference in the number of nerve-endings stimulated.] **R. H. Stetson.** 'A Motor Theory of Rhythm and Discrete Succession.—II.' [Describes experiments with up-and-down movements of a baton, and with tapping by finger and foot, made in the interests of a detailed motor theory of rhythm. Rhythms are single (ticking, bird song, verse, prose, walking) or combined, concomitant (music, dancing). (1) Analysis of the movement-cycle of a single rhythm leads to a study of the ballistic stroke, of the unit-group ("the form in which the various muscle-sets and segments of a limb or organ can all work together freely and easily in a single-movement cycle"), of perceived as compared with produced rhythms, of verse and prose rhythm, etc. (2) The study of combined rhythms, whose field is music, begins with the measure, and goes on to deal with such problems as the effect of change of tempo on rhythmical character. The author ends by discussing, in terms of Münsterberg's action theory, the central processes of rhythm and of

discrete succession at large.] Vol. xii., No. 6. **J. H. Leuba** and **W. Hyde.** 'Studies from the Bryn Mawr College Psychological Laboratory: An Experiment in Learning to Make Hand Movements.' [Experiments on the reading and writing of German script. Psychophysical analysis; the influence of reading on writing, and conversely; fatigue; fluctuations in efficiency.] **G. M. Parker.** 'A Study of the Motor Phenomena in Chorea.' [Choreic movements are not biologically inco-ordinate. There is a hierarchy of movements, in which the more complex are compounded from the more simple; in chorea, there is inhibition of the higher motor systems, and consequent reversion to primal, simple, fixed movements which were of utility in earlier evolutionary stages.] **H. B. Thompson.** 'Studies from the Psychological Laboratory of Mount Holyoke College.' **G. M. Fernald.** 'The Effect of the Brightness of Background on the Extent of the Colour Fields and on the Colour Tone in Peripheral Vision.' [The colourless background appears to intensify the component colour least like and to obliterate the colour most like itself in brightness. In the case of orange and yellow, the field is widest when the brightness contrast between colour and ground is greatest.] Editor's Announcement.

American Journal of Psychology. Vol. xvi., No. 3. **E. A. McC. Gamble, C. E. Pitkin** and **E. Foster.** 'Attention and Thoracic Breathing.' [Report of experiments with adults, students, children and dogs, on changes in form and rate of breathing as accompanying changes in degree or stability of attention. The most constant correlation is that of acceleration of slow breathing with rise in level of attention; next stands variation in length of expiratory pause with variation in stability of attention.] **M. Meyer.** 'Auditory Sensation in an Elementary Laboratory Course.' [Outlines simple quantitative experiments, especially on difference-tones.] **B. R. Andrews.** 'Auditory Tests.—II.' [Discusses tests of musical capacity, and diagnostic tests of hearing.] **E. C. Sandford.** 'Minor Studies from the Psychological Laboratory of Clark University.' **L. D. Arnett.** 'XVIII. Counting and Adding.' [The psychical counting mechanism is essentially like the ordinary mechanical counters; an important element in throwing it into operation is voluntary movement. The section on adding contains notes of procedure and rate of work.] **F. Kuhlmann.** 'The Place of Mental Imagery and Memory among Mental Functions.' [Discusses, with critical reference, the validity of 'ability to learn' as a criterion of mind, and as a criterion of the existence of the memory-image; the *rôle* of the image in the process of learning; and its *rôle* in human life, as now constituted.] **R. H. Gault.** 'On Conditions Affecting the Maximal Rate of Voluntary Extensor and Flexor Movements of the Right Arm.' [Discusses the effect of various extents of running start; the MV of the average rate of movement; the back pressure or backward start and its duration; practice, fatigue and the differential rate of flexor and extensor movements.] Literature. **F. Kuhlmann.** 'Recent Studies of Normal Illusions of Memory.' Book Notes. Books Received. Vol. xvi., No. 4. **H. C. Stevens.** 'A Plethysmographic Study of Attention.' [Report of 135 experiments on the state of active attention. Conclusions: (1) Changes in rate of pulse and respiration are brought about by the psychophysical process of sensation; (2) every sensory stimulus, probably in proportion to its intensity, tends to produce a fall in volume; (3) inhibited respiration is a characteristic of active attention.] **I. M. Bentley** and **G. H. Sabine.** 'A Study in Tonal Analysis.—I.' [Preliminary report of experiments with rotating fork, with critical reference to previous work.] **E. H. Hollands.** 'Wundt's Doctrine of Psychical Analysis and the

Psychical Elements, and Some Recent Criticism.—I. The Criteria of the Elements and Attributes.' [Shows, in the light of an historical survey, the criteria employed by Wundt to mark off the elements and their attributes; maintains, as against Washburn, that his usage is consistent.] **A. I. Gesell.** 'A Case of Symbolistic Writing with Senile Delusions.' [History of the Case; illustrations and analyses of the writing.] **M. F. Washburn.** 'Minor Studies from the Psychological Laboratory of Vassar College.' **A. Heywood** and **H. A. Vortriede.** 'I. Some Experiments on the Associative Power of Smells.' [Under the experimental conditions, odours have no greater power of recall than nonsense-syllables. In real life, the infrequency and isolation of particular odours gives the sensations an unusual hold upon the attention.] Psychological Literature. Book Notes. Index.

THE JOURNAL OF PHILOSOPHY, PSYCHOLOGY AND SCIENTIFIC METHODS. We regret that we have not hitherto been able to take notice of this new specimen of American philosophic enterprise. It is published fortnightly in New York, and ably edited by Prof. F. J. E. Woodbridge of Columbia University. Each number contains twenty-eight pages and is made up of short articles (the longer ones extend over several numbers), discussions, reviews of books and abstracts of periodicals, and 'notes and news'. The *Journal* is now in the second year of an existence which seems amply justified by the conveniences it offers for discussion and the excellence of its contents, among which a series of important articles by Prof. James may be specially mentioned. Altogether there is no periodical which better avoids the *crambe repetita* or gives a clearer insight into the progress of philosophy across the Atlantic. We append a list of the papers and more important discussions for the year 1905: II. 1. **B. C. Ewer.** 'The Idea of Possibility.' **F. E. Lutz.** 'Biometry.' II. 2. **William James.** 'The Thing and Its Relations.' [Plea for the acceptance of immediate conjunctions and polemic against F. H. Bradley's denial of the thinkableness of relations.] Meeting of the American Philosophical Association. II. 3. Meeting of the American Psychological Association. II. 4. **H. Höffding.** 'A Philosophical Confession' of his sympathy with irrationalism, pluralism and pragmatism]. **B. L. Gildersleeve.** 'A Syntactician among the Psychologists.' ['Greek syntax is all in favour of will as the *prius*.'] **W. C. Gore.** 'Image or Sensation.' II. 5. **William James.** 'The Essence of Humanism.' [To have seen that "though one part of experience may lean upon another part to make it what it is in any one of several aspects in which it may be considered, experience as a whole is self-containing and leans on nothing".] **F. J. E. Woodbridge.** 'The Nature of Consciousness.' [Not a receptacle, but only a form of connexion of objects.] **W. R. Newbold.** 'Taurellus.' **B. H. Bode.** '"Pure Experience" and the External World.' [Accuses James of solipsism.] II. 6. **R. M. Yerkes.** 'Animal Psychology and Criteria of the Psychic.' **A. H. Pierce.** 'Inferred Conscious States and the Equality Axiom.' II. 7. **C. H. Judd.** 'Radical Empiricism and Wundt's Philosophy.' ["The temper and tendencies of the two systems are much alike."] **William James.** 'How Two Minds Can Know One Thing.' [It can be 'appropriated' by and figure in the two.] **H. B. Alexander.** 'Phenomenalism and the Problem of Knowledge.' II. 8. **J. Royce.** 'Kant's Doctrine of the Basis of Mathematics.' [His theory "has been in one respect wholly abandoned by the modern logic of mathematics," but its "immortal soul" is that his distinction of analytic and synthetic is false because true thinking is both.] **C. J. Keyser.** 'Some Outstanding Problems for Philosophy.' [Mathematical.] II. 9. **S. S. Colvin.** 'Is Subjective Idealism a Neces-

sary Point of View for Psychology?' [Realistic.] **W. B. Pitkin.** 'Logical Problems, Old and New.' [The 'new' logic is that of humanism.] **William James.** 'Is Radical Empiricism Solipsistic?' [Answers II. 5 and protests against the rationalistic tendency to chop experience up into discontinuous static objects.] II. 10. **G. Rebec.** 'Natural *vs.* Artistic Beauty.' **A. L. Kellogg.** 'The Possibility of a Psychological Consideration of Freedom.' II. 11. **William James.** 'The Place of Affectional Facts in a World of Pure Experience.' [As classifications depend on our temporary purposes, and no urgent need has yet arisen for treating them as rigorously mental or physical, their position is naturally ambiguous.] **R. McDougall.** 'The Discrimination of Critical and Creative Attitudes.' **A. H. Pierce.** 'An Unusual Feature of the Hypnagogic State.' [Vision of a flower seen but not attended to.] II. 12. **W. P. Montague.** 'The Relational Theory of Consciousness and Its Realistic Implications.' **H. A. Overstreet.** 'A Deduction of the Law of Synthesis.' **J. Dewey.** 'The Realism of Pragmatism.' [Regards "the presuppositions and tendencies of pragmatism as distinctly realistic"; what it "takes from idealism is just and only empiricism," and "the meaning of subjectivism is just *anti*-dualism".] II. 13. **A. H. Lloyd.** 'The Personal and the Factional in the Life of Society.' ["There is a case for pragmatism in just so far as there is a case for personality" against the factional and professional.] **I. W. Riley.** 'Recent Theories of Genius.' II. 14. **J. E. Boodin.** 'The Concept of Time.' [Reality in the concrete is a willing process, and meanings are relative to an active self which constructs the past and future.] **J. A. Leighton.** 'Self and Not-Self in Primitive Experience.' Western Philosophical Association meeting. II. 15. **J. Dewey.** 'The Postulate of Immediate Empiricism.' [That things "are what they are experienced as," but from the bare concept nothing positive follows.] **C. V. Tower.** 'A Neglected Context in Radical Empiricism.' [Discusses James's conception of consciousness in I. 18.] **R. M. Ogden.** 'The Æsthetic Attitude.' [Activity is not always salutary.] II. 16. **C. V. Tower.** 'The Total Context of Transcendentalism.' **C. J. Herrick.** 'A Functional View of Nature as seen by a Biologist.' [Instead of saying things are known to us only through their behaviour, we should say "the behaviour is the thing so far as known". Structure therefore can be defined only in terms of function and mind is function.] II. 17. **W. B. Pitkin.** 'The Psychology of Eternal Truths.' [There are timeless meanings immediately experienced, but they yield no reason why truth or falsehood should be predicated of them. This is why humanists neglect them. Still this "mere psychological timelessness is the point of departure for every logical theory".] **H. F. Osborn.** 'The Ideas and Terms of Modern Philosophical Anatomy.' **H. B. Alexander.** 'Quantity, Quality and the Function of Knowledge.' II. 18. **W. E. Hocking.** 'The Function of Science in Shaping Philosophic Method.' [A suggestive paper on empiricism and rationalism in their relation to system. "Not system is empiricism's ultimate aversion, but the pretended knowledge of ultimate wholes, assertion of the finishedness of the infinite." "The whole cult of the given is at heart an assertion of the final impenetrability of existence."] **F. Arnold.** 'The Unity of Mental Life.' [Psychological.] II. 19. **D. F. Swenson.** 'The Category of the Unknowable.' **J. D. Stoops.** 'The Psychology of Religion.' [Conversion is a change from an ego-centric consciousness to a sense of unity with the deeper meaning of life.] **C. M. Bakewell.** 'Prof. Dewey on Immediate Empiricism.' II. 20. **J. R. Angell.** 'Psychology at the St. Louis Congress.' **E. L. Thorndike.** 'Measurement of Twins.' II. 21. **W. T. Bush.** 'An Empirical Definition of Consciousness.' [Further discussion of the 'non-existence' of

consciousness.] **W. B. Pillsbury.** 'An Apparent Contradiction in the Modern Theory of Judgment.' [The definitions of judgment as (1) composed of subject and predicate, and (2) the acquisition of meaning by mental states are incompatible.] **F. J. E. Woodbridge.** Of what sort is Cognitive Experience?' [Discussion of Dewey, II. 15.] II. 22. **S. I. Franz.** 'The Re-education of an Aphasic.' **J. Dewey.** 'Immediate Empiricism.' [Reply to Bakewell, II. 19, "mediation, continuity, reconstruction and growth are facts which transcendentalism has failed consistently to define and account for"; but concepts are not unempirical and "meanings may be and are immediately experienced as conceptual".] **W. B. Pitkin.** 'Universals; a Criticism.' [Of an 'ultra-psychological' treatment.]

International Journal of Ethics. Vol. xvi., No. 1, October, 1905. **J. H. Hyslop.** 'Why are we Imperialistic?' [Imperialism, as a ruling principle counteractive of the tendency to independence and individualism implied in modern democracy, has taken the place of the older principles of aristocracy and authority. It is inevitable so long as the dominance of economic and commercial interests is not tempered or controlled by a spiritual ideal, which shall similarly take the place of the moral and religious ideals associated with the older principles.] **Helen Bosanquet.** 'The Intellectual Influence of Women.' [Women have shown conclusively, in our colleges and universities, their capacity for the assimilation or reproduction of knowledge; but their best influence upon intellectual progress cannot be secured until they obtain, through endowments or otherwise, the same opportunities as men for independent constructive or productive efforts.] **R. A. Woods.** 'Social Work: a New Profession.' [Social work, as a profession, means the effort, on the part of the privileged and cultured, to study and to serve, by getting to the heart of the life of the great masses of humanity, their present and pressing needs and aims. Some definite financial provision should be made for this purpose.] **W. R. Benedict.** 'Greek Thought-Movements and their Ethical Implications.' [Greek thought is a progressive distinguishing and reuniting of outward and inward, matter and spirit, fact and meaning.] **H. W. Wright.** 'Evolution and Ethical Method.' [An evolutionary interpretation of morality enables us to recognise both its relative character, as dependent on the desires and impulses of individuals, and its absolute authority; the virtues being authoritative as *necessary* factors in the progressive organisation of conduct.] **M. V. O'Shea.** 'The Development of Ethical Sentiment in the Child.' [Moral sentiment in the individual originates through the endorsement or the resentment of instinctive actions by the social environment, and develops in proportion as this environment widens and deepens.] **H. S. Salt.** 'The Ethics of Corporal Punishment.' ["Corporal punishment, as the very antithesis of moral suasion and the compact embodiment of brute force, is an outrage on the supremacy of the human mind and the dignity of the human body"; and "must be uprooted and abandoned before any true measure of civilisation can be attained".] **J. Lineham.** 'Sin and Sacrifice.' [The advance from external or ceremonial to internal or moral conceptions of sin and of sacrifice is a corollary of the emergence of the doctrine of the immanence of God in man.] Book Reviews.

Revue de Philosophie. 1er Août, 1905. **B. Noblet.** 'The Cultivation of the Moral Imagination.' **J. Breuil.** 'A Study of the First Artistic Efforts of Young Children.' [Interesting.] **Dr. de Buck.** 'Facts of Mental Pathology Bearing on the Associationist or Determinist Theory.' [He promises to prove by physiology and pathology that association of

ideas finally sets up in man an organ which is the seat of the ego, of personality and will.] Reviews of L. M. Billia, *Difendiamo la famiglia*, and H. de Tourville, *History of Private Association*, where it is argued that the world belongs to the English-speaking races, who have not merged the family in the State. 1er Septembre, 1905. **L. Desvallées.** 'Science and Reality.' [That "there is no science except of quantity," that "movement is refractory to science," that under scientific analysis quality passes into quantity, that change can only be viewed under the aspect of a number of static points.] **V. Bernies.** 'Obsessions and Possessions.' **N. Vaschide.** 'The International Congress of Psychology' [at Rome, analysis of papers read, chiefly on experimental psychology]. 1er Novembre, 1905. **Paul Hermant.** 'Consciousness.' [The conscious, subconscious and unconscious elements of human nature.] **F. Warrains.** 'The Logic of Beauty.' [Especially in architecture and music.] **V. L. Bernies.** 'The Origin of Ideas.' [An attempt to work Aristotelianism without any *intellectus agens*, deriving the cognition of substance and phenomena, cause and effect, from the mind's reflexion on itself as a permanent something, underlying transient states. "Une impression sans sujet, une operation sans une force active, des phénomènes sans substance et comme suspendus entre ciel et terre, ne sont-ce pas le plus flagrant de non-sens?" A lucid and suggestive paper.]

Revue de Métaphysique et de Morale. 13e Année, No. 4, July, 1905. **A. Espinas.** 'Xénophon: l'économie naturelle et l'impérialisme hellénique.' ["Xénophon est le seul philosophe grec qui ait reconnu sans restriction la légitimité de la propriété individuelle et glorifié la richesse. . . . La *Cyropédie* continue *l'Économique*; c'est bien là l'Économie d'un faiseur d'empire pour lequel l'empire n'est que l'agrandissement de sa maison."] **G. Belot.** 'En quête d'une morale positive (*Suite*).' [The first article of this series appeared in the January number.] **M. Winter.** 'Métaphysique et logique mathématique.' [The human understanding finds complete satisfaction in science. Metaphysics is legitimate only as a merely subjective and personal attempt to anticipate the ideal completion of science.] **P. Boutroux.** 'Correspondance mathématique et relation logique.' [A continuation of the discussion started at the Genevan Congress. *Cf. Revue* for November, 1904.] **P. Lacombe.** 'Taine historien littéraire.' [A discussion of the underlying assumptions of Taine's literary criticism. "Taine a vu l'homme, sous un angle singulièrement étroit, ce qui fait qu'il a terriblement simplifié l'histoire."] **G. Lanson.** 'Le droit du père de famille et le droit de l'enfant.' [An interesting discussion with special reference to the political aspects of the education problem.] Livres nouveaux, etc. 13e Année. No. 5. September, 1905. **L. Brunschvicg.** 'Spinoza et ses contemporains.' [This is an excellent article. Brunschvicg seeks to characterise in their individuality the philosophies of Pascal and Malebranche, reconstructing that personal atmosphere which colours each system, and which the historians of philosophy, bent on determining their logical affiliations, have more or less ignored. Each system is then compared and contrasted with that of Spinoza.] **G. Dwelshauvers.** 'De l'individualité (dialogue philosophique).' [Consciousness of self can be explained neither as feeling nor as memory nor as striving after self-maintenance, but only as a harmony which depends for its transitory existence on its connexion with that harmonious system of relations which we name reason and which does not itself possess individual being.] **G. Belot.** 'En quête d'une morale positive.' [Continued from the July number.] C. Hémon reviews Sully-Prudhomme's 'La vraie religion selon Pascal'; and Bernès continues the discussion on the religious education of children. Livres nouveaux, etc.

REVUE PHILOSOPHIQUE DE LA FRANCE ET DE L'ETRANGER. 30ième année. No. 9, Septembre, 1905. **V. Gignoux.** 'Le Rôle du jugement dans les phénomènes affectifs.' [A very interesting and important attempt towards a conciliation between the widest intellectualism and the physiological theory of affective phenomena. The discussion of the two positions excluding each other and a lucid analysis of the different kinds of emotions lead the author to the conclusion that the *immediate* antecedent, but not the *first* and profoundest cause, of emotion is always to be found in organic processes; these organic processes themselves are, in most cases, a result of judgments. This theory of judgment as acting on organic activity and of this latter as productive of emotion, while belonging in one of its elements to a dynamical spiritualism, seems to be materialistic in the other. To give it the necessary unity, the author refutes briefly the hypothesis which regards mind as being a mere epiphenomenon of matter, and adopts a purely idealistic conception of the body.] **R. de la Grasserie.** 'La Psychologie de l'argot.' [Studies the French slang with a view of pointing out the psychological character of this sort of language and of inquiring what light its study may throw on the study of mind. The psychical tendencies in which the principles of the slang have their source and the contrivances used for the actualisation of these principles are carefully analysed. **P. Girard.** 'Sur l'expression numérique de l'intelligence des espèces animales.' [Expounds the results of the attempts, made respectively by Manouvrier and by Eugène Dubois, to find a mathematical formula of the relation between the weight of the encephalon and the degree of intelligence as considered in a given animal species.] **G. Truc.** 'Une illusion de la conscience morale.' [This article is intended to show that moral responsibility does not exist at all, but is, as M. Truc calls it, a mere hyperæsthesia of the sensibility. Virtue is "a brilliant fantasmagory". The word "illusion" is so often and so dogmatically used by the author in dealing—rather hastily—with the highest concepts of psychology, of metaphysics and of ethics, that there is no doubt the author's position is, at bottom, a universal speculative nihilism: all is illusory, except, of course, Nietzsche's and M. Truc's personal doctrine.] Notices bibliographiques. No. 10. Octobre, 1905. **Paul Sollier.** 'La Conscience et ses degrés.' [According to Dr. Sollier, consciousness is not at all a form of energy or corresponds to any quantity, to any absolute intensity, of cerebral energy; having no existence proper, it is in close connexion of dependence (not with cerebral disintegration, as Herzen taught), but with cerebral integration, or, more probably, with the integration in the apperception-centre. Its function is to register, so to say, the phenomena corresponding to the highest (relatively speaking) degree of cerebral activity at a given moment, and to simplify the organisation, the conservation and the reactions of the impressions received by the brain. Dr. Sollier's conclusion is that consciousness, although its essential nature must always elude us, is an "essentially" biological and physiological phenomenon which by no means may be accepted as a criterium of what distinguishes the psychological from the physiological and even from the physical.] **C. Bos.** 'Les éléments affectifs du langage: ses rapports avec les tendances de la psychologie moderne.' [The main tendency of to-day's psychology is a reaction against intellectualism. Recent writers have shown that we never have to deal with pure thought, that always a feeling or a sentiment lies concealed in it and governs it; in other words, that knowledge is affectivo-intellectual. M. Bos's purpose is to show that the same theory is true as applied to language. Subtle and interesting analysis of its formation, development and use brings into relief the perpetual combination of affective and emotional with rational characters in language,

which, consequently, may not be regarded as wholly reducible to conscious factors, but has its very roots in our inmost self, or, as the author calls it, in the unconscious.] **Draghicesco.** 'De la possibilité des sciences sociales.' [The immense series of centuries which were necessary to the establishment of immutable cosmic laws and to the full evolution of life on our planet, compared with the very short time elapsed since the constitution of human societies, forces on us, according to M. Draghicesco, the conclusion that we are still, in so far as these are concerned, at an epoch of chaos and anomy. At the present day the sociological laws are only on their way towards existence; to try, therefore, to discover *now*, through observation, sociological laws comparable to the laws of nature, is a waste of time. In a very remote future, when the knowledge of nature will be completed and the integration of societies into a unique planetary society fully accomplished, then, and only then, there shall emerge in full completion, along with the perfect social life, the object of the psycho-social sciences. A brief sketch of the main phases of this final social harmony ends the article.] **J. N. Matienzo.** 'La logique comme science objective.' [A short and valuable defence of the general conception of logic elaborated by Mill, Bain, Morgan, Boole, Spencer, Stanley-Jevons and Dr. Venn. The scholastic conception of logic should be abandoned as anthropocentric and inadequate; its function should be not to study the intellectual operations, but the universal objective relations we know through those operations, to investigate the supreme conditions to which the truths discovered by the special sciences are subjected.] *Revue Critique*: **F. Paulhan.** 'L'Idéalisme d'aujourd'hui.' [An interesting account and critical examination of two recent books: Brunschvicg's *L'Idéalisme contemporain* and Villa's *L'Idealismo moderno.*] Analyses et comptes rendus. Revue des Périodiques étrangers. No. 11. Novembre, 1905. **G. Richard.** 'Les lois de la solidarité morale.' [The main conclusions of this important article may be summed up thus: Social man alone is able to conceive the idea of moral value. This idea implies that of solidarity. The individual cannot assign a moral value to any of his acts or to the whole of his conduct, if he does not consider its relation to the possible social evil, without any regard to his personal happiness. Accordingly, the notion of moral value rests on the consciousness of social evil. Conduct has a value so much the greater as it attests a greater effort to react against the known causes of evil. But morality should not be identified, as it is in the positivist conception, with a purely automatic sociality: there is no moral value where there is no difficulty to overcome. The automatic and instinctive tendencies which arise unconsciously out of life in society must needs lead to the irremediable abasement of the collective character and even to its dissolution.] **L. Dugas.** 'Sur les abstraits émotionnels.' [M. Ribot has called emotional abstracts some general ideas which have not their origin in a fusion of particular images, but result from their being grouped about a privileged sentiment. M. Dugas holds that most of our general ideas have no other origin. Refuting Galton's theory and analysing the laws of sentiments, he concludes that they are a principle of abstraction and are themselves able to be abstracted and generalised. Affective abstraction is not derived from the abstraction in representations; on the contrary, the former is the principle of the latter.] **P. Gaultier.** 'La moralité de l'art.' [Art in itself is neither moral nor immoral; it is amoral, that is to say, distinct from morality. But art, provided it be not directed against morality, may be rightly considered as being an aid to morality. The æsthetic sentiment, besides harmonising wonderfully with the sentiments properly called moral, prepares and even incites us to morality through the analogies which exist between

the æsthetic and the moral activities. Genuine æsthetic pleasure, far from being an obstacle to morality, as some think, rather stimulates, through its nobleness and purity, to virtuous effort, and constitutes a transition from the satisfaction of a basely selfish existence to the joys of moral life.] *Revue Générale:* **C. G. Picavet.** 'Le Matérialisme historique et son évolution.' [Shows, in analysing the writings of Marx and Engels principally, the continuous development of the doctrine of historical materialism.] Analyses et comptes rendus. Revue des Périodiques étrangers.

Archives de Psychologie. Tome iv., Nos. 3 and 4. **E. Claparède.** 'Esquisse d'une théorie biologique du sommeil.' [Sleep is a defensive function, an instinct which aims, in rendering the animal inert, to prevent it from reaching the stage of exhaustion.] **R. Senet.** 'Quelques considérations sur la nyctophobie chez les enfants.' [In most cases, nyctophobia is simply a collateral phobia; in the rest, it is not a fear of darkness, but of that which the darkness may conceal.] **A. Lemaitre.** 'A propos des suicides de jeunes gens.' **A. Dégalier.** 'Notes psychologiques sur les négres pahouins.' Recueil de faits: Documents et Discussions. **P. Bovet** et **H. Jaccard.** 'Exemples de travail utile pendant le rêve.' **T. Jonckheere.** 'Le 2ème Conférence Belge pour l'Amélioration du Sort de l'Enfance Anormale.' Bibliographie. Notes diverses. [Necrology: Marc Thury.] Tome v., No. 1. **W. James.** 'La notion de conscience.' [Consciousness, as ordinarily understood, no more exists than matter does. Certain experiences, within the whole of experience, play the part of things known; certain others, the part of knowing subjects; the distinction is functional only, not ontological, and things and thoughts are both made up of the same stuff, namely, the material of experience in general.] **E. Claparède.** 'La psychologie comparée est elle légitime?' [Comparative psychology has the same right to existence that human psychology enjoys; and recent attempts to replace it by a physiological conception and terminology have led to linguistic confusion and to over-simplification of mechanistic ideas.] **F. Miller.** 'Quelques faits d'imagination créatrice subconsciente:' avec introduction par **T. Flournoy.** [Report of certain facts of instantaneous autosuggestion; transcription and analysis of a dream poem, and of a hypnagogic poem and drama.] Bibliographie. Publications reçues. Notes diverses.

Zeitschrift für Psychologie und Physiologie der Sinnesorgane. Bd. xxxvii., Heft 3 and 4. **P. Ephrussi.** 'Experimentelle Beiträge zur Lehre vom Gedächtnis.—II.' [Experiments on the influence of rapidity of reading on memorising show that with the method of learning-by-heart (*Erlernung*) a quick reading, with the method of hits-and-misses (*Treffer*) a slow reading, is the more economical. The reason is that the latter method is the more sensitive to the reduction of associations by lapse of time.] **R. P. Angier.** 'Vergleichende Messung der kompensatorischen Rollungen beider Augen.' [Amount and direction of torsion are practically the same for both eyes. Criticism of Delage.] **E. Reimann.** 'Die scheinbaren Vergrösserung der Sonne und des Mondes am Horizont.' [Explanation in terms of the atmosphere as a transparent medium.] Literaturbericht. Bd. xxxvii., Heft 5. **G. Alexander** and **R. Barany.** 'Psychophysiologische Untersuchungen über die Bedeutung des Statolithenapparates für die Orientierung im Raume an Normalen und Taubstummen, nebst Beiträgen zur Orientierung mittels taktiler und optischer Empfindungen.—I.' [Report of experiments on direction of lines drawn on forehead, and on visual determination of vertical, etc., with head or

body normal or inclined.] **B. Hammer.** 'Zur experimentellen Kritik der Theorie der Aufmerksamkeitsschwankungen.' [Visual fluctuation is due to local adaptation and change of fixation; auditory fluctuation does not exist.] Literaturbericht. Bd. xxxvii., Heft 6. **R. P. Angier.** 'Vergleichende Bestimmungen der Peripheriewerte des trichromatischen und des deuteranopischen Auges.' [The brightness maximum of the peripheral curve of the deuteranope (so-called green blind) is definitely shifted towards the long-wave end of the spectrum.] **G. Alexander** and **R. Barany.** 'Psychophysiologische Untersuchungen über die Bedeutung des Statolithenapparates, u.s.w.—II.' [Report of further visual experiments, and of forehead-line experiments with deaf mutes. Under these experimental conditions the statolith apparatus plays no part in the formation of ideas.] Literaturbericht. Bd. xxxviii., Heft. 1. **K. L. Schaefer** and **P. Mahner.** 'Vergleichende psychophysiologische Versuche an taubstummen, blinden und normalsinnigen Kindern.' [Experiments with lifted weights. The percentage of *r*-cases is greatest with the deaf mutes, least with the normal children.] **G. Alexander.** 'Zur Frage der phylogenetischen, vikariierenden Ausbildung der Sinnesorgane: über das statische und das Gehörorgan von Tieren mit kongenital defektem Sehapparat; Maulwurf (Talpa europæa) und Blindmaus (Spalax typhlus).' **R. Barany.** 'Experimenteller Beitrag zur Psychologie des Urteils: über mehrere von dem Grade der Aufmerksamkeit abhängige Urteilsphänomene im Gebiete unsicherer taktiler Empfindungen.' [Experiments on the determination of the 'vertical in space' by means of tactual sensations; explanation of errors by direction, degree and inertia of attention.] Literaturbericht. Bd. xxxviii., Heft 2 and 3. **A. von Szily.** 'Bewegungsnachbild und Bewegungskontrast.' [The after-image of movement is to be physiologically, not psychologically explained; it is not even an illusion of sense, since its quality and quantity can always be foretold, and it remains the same under uniform conditions of stimulation. In all probability, its immediate physiological substrate is central: this brings it into connexion with Exner's 'sensation of movement,' the existence and primitive character of which are further vouched for by the phenomena of movement contrast (cloud contrast and contour contrast).] **H. Piper.** 'Beobachtungen an einem Fall von totaler Farbenblindheit des Netzhautzentrums im einen und von Violettenblindheit des anderen Auges.' [The violet blindness can be explained in terms of the Young-Helmholtz theory. The co-existence of a daylight and a twilight total colour-blindness in the right eye speaks for von Kries's theory. The daylight blindness itself may be tentatively explained either from the Fick-König modification of the Helmholtz theory, or by a combination of von Kries's and Hering's theories.] **H. Zwaardemaker.** 'Riechend Schmecken.' [Repetition of Nagel's experiment gives a positive result: Disse's beakers in the regio olfactoria may, therefore, mediate taste sensation.] **W. Nagel.** 'Bemerkungen zu der vorstehenden Arbeit von Zwaardemaker "Riechend Schmecken".' [Apart from individual differences, the taste sensation may come from the epiglottis.] Literaturbericht. Erwiderungen. **F. Weinmann.** 'Zur Struktur der Melodie.' **H. C. Stevens.** 'Schwankungen der Zeitschätzung und vasomotorische Kurven.' Bd. xxxviii., Heft 4. **T. Lipps.** 'Zur Verständigung über die geometrischoptischen Tauschungen.' [A re-statement of the author's well-known theory of the geometrical optical illusions, with special reference to the work of Wundt, Schumann and Pearce.] **W. Sternberg.** 'Irrtümliches und Tatsächliches aus der Physiologie des süssen Geschmackes.' [Deals with certain artificial synthetic nitrogenous sweet-tasting substances of the cyclical or aromatic series (dulcin, glucin, and homologous and isomeric compounds).

Emphasises the frequency of sensory illusion in the sphere of taste.] Literaturbericht. Bd. xxxviii., Heft 5 and 6. Literaturbericht. **I. M. Bentley.** 'Entgegnung.' **L. Hirschlaff**, mit Unterstutzung von **H. C. Warren.** 'Bibliographie der psychophysiologischen Literatur des Jahres, 1903.' [2,575 titles.]

Archiv für die Gesamte Psychologie. Bd. v., Heft 3 and 4. **E. Landmann-Kalischer.** 'Ueber den Erkenntniswert æsthetischer Urteile: ein Vergleich zwischen Sinnes- und Werturteilen.' [The author maintains that æsthetic valuation is mediated by an 'organ' which in function and operation resembles the organs of sense; that the æsthetic judgment is, as regards objective validity, on a par with the sensory judgment; and that beauty is as much a property of 'things' as their sensible quality is. Part i. (feeling and value; feeling and cognition) discusses the 'subjectivity' of feeling, and asserts that, as there are objectively and subjectively conditioned sensations, so are there the two types of feelings. As a number of perceptions is presupposed for the 'form quality,' which is none the less immediate, and passes for perception, so do the form-qualities constitute the basis for a new perception, that of beauty. Part ii. treats of the subjective and objective reliability (in Stumpf's sense) of judgments of value: the parallel with the secondary qualities is ingeniously worked through, and illustrated by reference to illusions of value, psychological, physiological and physical. A chapter is devoted to the criteria of the correctness of sensory judgments and judgments of value, where the parallel still holds; and another to the qualities of æsthetic feeling (beauty and ugliness are, tentatively, put down as the sole ultimate qualities). The author concludes with the remark that, as in the eighteenth century the subjectivity of sensation was proved by proof of its indiscriminability from feeling, so now the objectivity of the properties of 'things' apprehended by feeling must be proved by setting them in the same class with sensible qualities.] **I. A. Gheorgov.** 'Die ersten Anfänge des sprachlichen Ausdrucks für das Selbstbewusstsein bei Kindern.' [Detailed study of the language of two boys. The author stresses the importance of temperament. He maintains (against Meumann and others) that the possessive pronoun appears later than the personal.] **R. Vogt.** 'Die psychophysiologische Erklärung der Sehnentransplantation.' [Establishes the law, by reference to Ebbinghaus's 'backward' associations and Müller's memory work with anapæsts, that the act of cortical learning in this case follows the type of the process of learning at large.] Referate. **W. Wirth.** 'Fortschritte auf dem Gebiete der Psychophysik der Licht- und Farbenempfindung.—II.' **A. Netschajeff.** 'Die Psychologie in Russland, 1904.' Einzelbesprechungen. Bd. vi. Heft 1 and 2. **T. Lipps.** 'Die Wege der Psychologie.' [Up to a certain point, all psychologists must follow the same road: that of descriptive psychology. This is an ego-psychology, not an atomism; it recognises the difference of contents and objects; it clears up the term 'activity,' etc. Beyond it, one may take the path of pure psychology, seeking and finding the "Ich an sich"; or that of causally explanatory psychology; or that of psychophysiology (which presupposes descriptive and explanatory psychology). Finally, in a metaphysics of mind, explanatory returns to pure psychology.] **A. Meinong.** 'Ueber Ueteilsgefühle: was sie sind und was sie nicht sind.' [Reply to Lipps. The judgments which serve as the psychological presuppositions of the emotions of joy and sorrow; the objective, as distinguished from the object, of judgment; feelings of knowledge and feelings of value; predetermination of objects; the interpretation of feelings of judgment as

activity feelings.] **M. Wertheimer.** 'Experimentelle Untersuchungen zur Tatbestandsdiagnostik.' [Seeks to answer the question whether one can, by experimental methods, discover that a given person knows or does not know of a given set of circumstances. The method is that of unconstrained associations, a word being shown and the reactor answering by another word. There are five groups of experiments: entirely uncontrolled preliminary series; series based on given circumstances unknown to the reactor; series based on known circumstances; the same, with instructions to the reactor to conceal his knowledge; and introspective series. Analysis of results leads to an affirmative answer to the general question. Conditions of temporal and qualitative abnormality of critical reactions are association, persistence, Einstellung, and affective and volitional phenomena.] **O. Kohnstamm.** 'Intelligenz und Anpassung: Entwurf zu einer biologischen Darstellung der seelischen Vorgänge.' [Author's summary, largely terminological, of paper in *Ann. d. Naturphil.*, 1903.] **H. Hielscher.** 'Völker- und individual-psychologische Untersuchungen zur älteren griechischen Philosophie.—II.' [Pythagoras, Xenophanes, Parmenides, Melissus, Zeno, Heraclitus.] **W. Peters.** 'Der 5te internationale Psychologenkongress in Rom, 26, bis 30. April, 1905.' Referate. **E. Duerr.** 'Beiträge zur Erkenntnispsychologie in der erkenntnistheoretischen und psychologischen Literatur der Jahre 1902-1904.' Einzelbesprechungen.

KANT-STUDIEN. Bd. x., Heft 3. This number is devoted to the celebration of the centenary of Schiller's death. It is prefaced by a reproduction in colours of the portrait of Schiller by Gerhard v. Kügelgen, and also gives two other portraits in black and white. **Rudolf Eucken.** 'Was können wir heute aus Schiller gewinnen?' [The chief ills of our present-day civilisation, its mechanising of life and its pessimism, find their remedy in the teaching of Schiller.] **F. A. Schmid.** 'Schiller als theoretischer Philosoph.' [An historical account of the development of Schiller's philosophical views.] **Jonas Cohn.** 'Das Kantische Element in Goethes Weltanschauung.' [This is a most interesting and valuable article. Cohn seeks to show to what extent and in what manner Goethe, under the influence of Schiller, assimilated the teaching of Kant in the several departments of epistemology, ethics, æsthetics, and philosophy of religion.] **Bruno Bauch.** 'Schiller und die Idee der Freiheit.' **H. Vaihinger.** 'Zwei Quellenfunde zu Schillers philosophischer Entwickelung.' [(I.) A dissertation *De Origine Characteris Animi* presented at the Karlsschule in 1784. Schiller's name occurs among the list of respondents. (II.) A Freimaurerliederbuch, published in 1784, quite possibly inspired Schiller's *Lied an die Freude.*] **W. Windelband.** 'Schillers transscendentaler Idealismus.' [In this excellent article Windelband defines Schiller's exact contribution to the development of Kant's transcendental Idealism.]

ZEITSCHRIFT FÜR PHILOSOPHIE UND PHILOSOPHISCHE KRITIK. Bd. CXXV., Heft 2. **Julius Bergmann.** 'Das Verhältniss des Fühlens, des Begehrens und des Wollens zum Vorstellen und Bewusstsein.' [A long and difficult study which, with its continuation in the following number, fills eighty pages of the review. The lamented author, who belonged to the school of Objective Idealism, treats desire as a species of representation.] **A. Hoffmann.** 'Zur geschichtlichen Bedeutung der Naturphilosophie Spinozas.' [Spinoza owed more to Hobbes than to Descartes, being particularly indebted to him for his confidence in the geometrical method. In physical science he follows Descartes, but, like Hobbes, he

is primarily interested in the sciences of human nature.] **Chr. D. Pflaum.** 'Bericht über die italienische philosophische Litteratur des Jahres, 1902.' [Treats with particular appreciation the works of Francesco de Sarlo and Benedetto Croce.] Recensionen, etc. Bd. cxxvi., Heft 1. **Julius Bergmann.** 'Das Verhältniss u.s.w.' (Schluss). **Robert M. Wernaer.** 'Die Einfühlung und das Symbol.' ['Einfühlung,' the most important of all terms in modern German æsthetics, has no single English equivalent. It stands for the mental process by which the spectator projects his own personality into an external object, living its life, and animating it with feelings like his own. Now, according to this paper, Lipps holds that 'Einfühlung,' so understood, is convertible with symbolisation, with the process whereby sensuous objects become invested with a spiritual significance. Wernaer, on the contrary, argues with great subtlety that in a symbol the material embodiment always remains inadequate to the spiritual content, and that its æsthetic perception is always accompanied by a consciousness of that inadequacy in the beholder; whereas in 'Einfühlung,' so long as it lasts, the commensurateness of the outward form to the inner meaning is complete. Only when we detach our personality from the æsthetic object and view it as an independent subject with a life of its own, does the consciousness of it as a symbol, with all the symbol's felt inadequacy to the charge of spiritual significance, come into play.] **Anton Korwan.** 'Zur Vertheidigung des Pantheismus Eduard von Hartmanns.' [Upholds the logical cohesion of Hartmann's theology against the theistic arguments of Andresen.]

Archiv für Systematische Philosophie. Neue Folge. Bd. xi., Heft 3, 23rd August, 1905. **H. Leser.** 'Über die Möglichkeit der Betrachtung von unten und von oben in der Kulturphilosophie.' [Deals with the problem of the relation and opposition between the science and the philosophy of religion. Critical estimation of the scientific point of view designed to show its ultimate inadequacy.] **D. Adolf Müller.** 'Quellen und Ziele sittlicher Entwickelung.' [Written rather from the point of view of the religious consciousness. *Das Gewissen das Gewisseste im Menschen ist.* Moral evolution presupposes persistent germs in human nature connecting it with unselfish spiritual powers. Human selfishness is rooted in the bodily organism, and man knows that he is the responsible ruler over the life of the body. It is the task of conscious beings to transform the impulses of sense into such moral impulses as may subserve the community of spirit.] Prof. Dr. **J. J. Hoffmann.** 'Exakte Darstellung aller Urteile und Schlüsse.' [An effort to give these simple, exact, mathematical form. As examples: S is P is represented by $S = \frac{P}{p}$ unless the identity S = P is known. The hypothetical judgment by $S \| \frac{M}{m}$. Examples of the syllogism would occupy too much space.] **Hermann Planck.** 'Das Problem der moralischen Willensfreiheit.' [The entire essence of freedom consists in the power to rise above immediate feeling, to liberate other feelings, spiritual and moral, for comparison, to strengthen or weaken those already present by the power of imagination. Article endeavours to show the applicability of Karl Planck's abstract law of concentration and dissipation to the concrete sphere of morals. We can grasp the possibility of unselfish motives, as the real source of the moral law, by viewing each incorporation of one ego with another as a manifestation of the positive side of this universal law of motion.] **Eugen Posch.** 'Über einige metaphysische Ansichten.'

[An attack on Theism and defence of Naturalism in the form of a rather sarcastic criticism of the *Metaphysik* of Dr. Georg Runze.] **Anna Tumarkin.** 'Bericht über die deutsche ästhetische Literatur aus den Jahren 1900-1905.' Neuste Erscheinungen, etc.

PHILOSOPHISCHES JAHRBUCH. Bd. xviii., Heft 2. **Dyroff.** 'Das Ich und Empfindung Vorstellung Bewusstseinslage.' [Every separation between the subject and the object of the Ego as feeling and the Ego as will necessarily entails contradiction. We can have no better mental image of the Ego than that of the word *I*; all others, however complex they may be, are inadequate.] **Gutberlet.** 'Die Lange-Ribotsche Gefühlstheorie.' [In this paper the writer combats the doctrine that the various feelings of pain and pleasure—fear, anger, sympathy, etc.—are identical with their outward manifestations. They have, as a matter of fact, nothing in common with these bodily changes, but are quite apart; although accompanied by them and accompanying them, they are at an immeasurable distance.] **Schmidlin.** 'Die Philosophie Ottos von Freising.' [This is the first of a series of articles, destined to make known one of the earliest of Mediæval German philosophers. In the present article, after a review of his general position as a philosopher, his attitude towards Aristotle is considered. Otto von Freising was one of the first of German students of Aristotle. Bd. xviii., Heft 3. **Dyroff.** 'Der Ichgedanke.' [The writer passes in review the concept of the Ego, as understood by Aristotle and the Scholastics, down to Descartes, whose 'Cogito ergo sum,' and whose famous criterion of truth, first posited the Subject as something different from Thought and Being, and the Subject as something necessarily related to both; and whose confusion between these two ideas was the origin of all the confusion which has followed since in the later schools of philosophical thought.] **Adlhoch.** 'Zum wissenschaftlichen Erklärung des Atheismus.' [This is the first of two articles. The writer asks: (1) Whether Atheism as a theoretical conviction, and not merely as a practical state of mind in which one does not care to think whether God exists or not, is possible. He answers, yes, most decidedly. (2) If so, how is such Atheism to be explained? He answers: By the perversion of our natural tendency towards an absolute and incomprehensible Ultimate, which ought to be recognised, but which men refuse to recognise. In this article Atheism is demonstrated as a fact, and the arguments of St. Anselm, St. Thomas, and in modern times of Gutberlet and Zigliara, against its possibility, are partly explained in the author's sense and partly refuted.] **Schmidlin.** 'Die Philosophie Ottos von Freising.' [The writer continues his account of Otto's philosophy, and compares him with the Realist, Gilbert de la Porée, whom he follows in a good many points.] Bd. xviii., Heft 4. **Adlhoch.** 'Zur wissenschaftlichen Erklärung des Atheismus.' [After having shown in the previous number that not only practical, but also speculative Atheism is both possible and a fact, the writer shows how this comes to pass; by a complete perversion and degradation of the mental faculties. This proceeds from the tendency to deny the divinity of Christ: which produces an attitude of mind that must logically end in Atheism.] **Haas.** 'Über den Unterschied, naherhin über den Unterschied von Wesenheit und Dasein.' [Here the different kinds of difference are enumerated, and the conclusion is that Essence and Existence are identical in the Infinite or Absolute Being, whereas in creatures there is a real (*sachliche*) difference between them.] **Holtum.** 'Die scholast. Philosophie in ihrem Verhältnis zu Wissenschaft, etc.' [This paper gives the outline of a controversy between Father Diego and others. Father Diego is averse to scholastics following

modern methods of philosophical and scientific investigation, whilst his adversaries maintain that these must be followed on parallel lines and equally with metaphysical studies. The writer does not sympathise with Father Diego.] **Schmidlin.** 'Die Philosophie Ottos von Freising.' [This, the sequel and conclusion of a paper on a German mediæval philosopher, examines Freising's ontological and cosmological speculations, and points out especially what connexion they have with those of Gilbert de la Porée and the Fathers of the Church.] **Dyroff.** 'Das Selbstbewusstsein.' [This paper is a series of remarks intended to complete the writer's previous arguments on the same subject in the *Jahrbuch*, by which he strives to show that self-consciousness proves the existence of a real ego.]

IX.—NOTES AND CORRESPONDENCE.

MR. BRADLEY AND SELF-CONTRADICTION.[1]

Mr. Bradley's comment in the last number of MIND (p. 439) on my article in the April number must, I suppose, be taken to mean that he conceives himself to have already met the objections I have raised to his doctrine of the Absolute Criterion. I do not find, however—and I do not think any one else, Mr. Bradley himself included, will be able to find—any passage or passages in the pages he now refers to in which the main objection I have urged has been even so much as recognised. The gravamen of my criticism lay in this, that whereas Mr. Bradley had asserted that the principle of contradiction affords an absolute criterion for distinguishing appearance from reality, I pointed out that self-contradiction is only foreign to reality in so far as it is foreign to appearance as such. But if I have been blind in this matter, Mr. Bradley will, of course, be able to open my eyes by the easy expedient of supplying actual quotations to bear out his present assertion.

On the other hand, we may welcome Mr. Bradley's admission that there *are* "difficulties," and even that the "last word" has not yet been said, in respect of a principle which in his last edition he still proclaimed to be absolute and indisputable. For how can a criterion be indisputable which has to meet objections, or absolute which can only hope to do so by the help of final reservations? At the same time, I would deprecate the suggestion conveyed in Mr. Bradley's note that a radical objection to his doctrine of the Absolute Criterion must forthwith assume the dignified status of a "final difficulty" in the theory of knowledge.

HOWARD V. KNOX.

M. POINCARÉ'S *SCIENCE ET HYPOTHÈSE.*

MONSIEUR LE DIRECTEUR,—Vous avez bien voulu me demander si j'avais quelques observations à faire au sujet de l'article que M. B. Russell a consacré à mon livre, *Science et Hypothèse*, dans le numéro de juillet 1905. J'en aurais beaucoup, évidemment, mais je ne voudrais ni abuser de votre hospitalité, ni revenir sur des discussions anciennes; je me bornerai donc à quelques brèves remarques.

M. Russell parle d'abord de l'arithmétique et du rôle du principe d'induction complète. Pour lui ce principe n'est que la définition du nombre entier. Je viens d'écrire sur ce sujet un article qui va paraître dans la *Revue de Métaphysique et de Morale*. Je me contenterai de renvoyer à cet article et d'expliquer en un mot, que le principe d'induction com-

[1] We regret that Captain Knox's note was received too late for insertion in the last number of MIND.

plète, ne signifie pas comme le croit M. Russell que tout nombre entier peut être obtenu par additions successives, c'est à dire peut être défini par récurrence. Il signifie que sur tout nombre qui peut être défini par récurrence, on a le droit de raisonner par récurrence.

L'auteur ajoute que dans l'induction mathématique on ne passe pas du particulier au général, entendu que le principe d'induction est plus général que la proposition à démontrer ; mais à ce compte on pourrait dire tout aussi bien que les sciences physiques procèdent du général au particulier, entendu que le principe d'induction physique est plus général qu'une loi physique quelconque.

En ce qui concerne la géométrie, j'ai eu avec M. Russell une longue discussion, et je vois qu'il persiste dans son opinion, comme je persiste dans la mienne ; mais il y a une phrase qui peut-être fait mieux comprendre l'origine de notre désaccord, "so that objects," dit M. Russell, "which we *perceive* as near together. . . ." Et le mot *perceive* revient plusieurs fois sous sa plume. Quant à moi, je n'emploie jamais le verbe percevoir, ni le substantif perception par ce que je ne sais pas ce qu'ils veulent dire. J'ignore si la perception est une sensation ou un jugement, et je crois voir que les philosophes qui emploient ce mot, l'entendent les uns dans le premier sens, les autres dans le second. C'est pourquoi j'évite de l'employer.

Dans le cas de la distance géométrique, j'ai montré que quand nous *sentons* qu'une distance est plus petite qu'une autre, il arrive souvent qu'en réalité c'est la première qui est la plus grande, cela est d'observation vulgaire ; quand nous *jugeons* qu'une distance est plus petite qu'une autre ; je dis que nous jugeons en vertu de certaines conventions que nous avions adoptées parce que nous les trouvions commodes. M. Russell semble donner au mot *percevoir* un troisième sens, mais ce sens, je ne le comprends pas.

L'auteur parle ensuite du mouvement relatif. "M. Poincaré says," dit-il, "This affirmation, 'the earth turns round,' has no meaning, or, in other words, these two propositions, 'the earth turns round,' and 'it is convenient to suppose that the earth turns round,' have one and the same meaning. But if 'the earth turns round' has no meaning, it has the same meaning as 'Abracadabra,' and, if M. Poincaré is right, the same meaning, that it is more convenient than Abracadabra."

Je m'étonne que M. Russell, qui avait parfaitement compris ma pensée, n'ait pu résister au plaisir de profiter d'une équivoque pour lancer un épigramme. Si je dis, le mètre est la vraie unité de longueur cela n'a aucun sens, ou plutôt en réalité j'ai voulu dire, le mètre est l'unité de longueur la plus convenable. Et bien c'est la même-chose. Quand je dis, la terre tourne, cela a l'air de vouloir dire ; les *vrais* axes de coordonnées, sont ceux par rapport auxquels la terre tourne en 24 heures, tandis qu'en réalité cela veut dire ; les axes de coordonnées *les plus convenables* sont ceux, etc.

J'ai dit que les questions relatives aux qualités des choses réelles sont *unmeaning ;* par ce que pour qu'une question ait un sens, il faut qu'on puisse concevoir une réponse qui ait un sens. Or cette réponse ne pourrait être faite qu'avec des mots et ces mots ne pourraient exprimer que des états psychologiques, des qualités *secondaires* subjectives, qui ne pourraient être celles des choses réelles ; à la fin du paragraphe qu'il consacre à cette question, M. Russell dit : "We may even push the theory further, and say that in general even the relations are for the most part unknown, and what is known are properties of the relations, such as are dealt with by mathematics. And this, I think, expresses substantially the same view as that which M. Poincaré really holds."

M. Russell ne s'est pas trompé, c'est bien là ma pensée.

A la fin, M. Russell n'a pas l'air très satisfait de ce que je dis de la probabilité. Je n'en suis pas très satisfait non plus et je serais heureux si M. Russell avait quelque chose de plus satisfaisant à proposer.

POINCARÉ.

M. Poincaré's reply to my review in MIND, July, 1905, calls for a few words of explanation.

On the subject of mathematical induction I await his forthcoming article in the *Revue de Métaphysique et de Morale*. But I should like to clear up a misunderstanding as to the sense in which, as I hold, mathematical induction does not proceed from the particular to the general. (Mathematical induction, by the way, does not define *integers*, but *finite integers*.) The principle may be stated as follows: "A number n is said to obey mathematical induction if it possesses every property which (1) belongs to 0, and (2) belongs to $m + 1$ whenever it belongs to m". Here the principle itself is doubly general, since (*a*) it makes a statement about all properties, (*b*) it makes a statement about all numbers. The statement about all numbers occurs in (2) above. And when we have taken a particular property, and thus ceased to concern ourselves with the general principle of induction, we still have a general statement about all numbers. Let us take an instance: Suppose we wish to prove that if n obeys mathematical induction, then n is not equal to $n + 1$. We prove (*a*) that 0 is not equal to 1, (*b*) that if m is not equal to $m + 1$, then $m + 1$ is not equal to $m + 2$. Here (*b*) is a statement about *all* numbers. It is only from (*a*) and (*b*) together that we reach the desired conclusion. The generality of (*b*) is not the kind of generality that M. Poincaré supposes me to mean when he suggests that I wish to adduce the principle of mathematical induction itself as a necessary premiss in all its applications.

As regards geometry, I do not think it is necessary to my point to decide what is meant by perception. My point is that relations of *order*, as opposed to metrical relations, are in some sense given in experience, and that this appears to show that spatial relations are to some extent empirically determined.

I regret that my remark about "Abracadabra" appeared to be a mere epigram. I meant to suggest that what it is convenient to suppose must have some meaning, and I did not suppose that I was "profiting by an ambiguity," which I should be most unwilling to do consciously.

B. RUSSELL.

MR. MACCOLL'S VIEWS ON LOGICAL EXISTENCE.

Mr. MacColl in the last number of MIND replied to my note in the previous number. He has put the matter so clearly that no doubt whatever can be entertained as to the position he occupies, but I still think that there are certain important considerations that prevent the general adoption of his view. Mr. Russell has well expounded from one standpoint the doctrine commonly held. The following criticisms may throw some further light upon the subject.

In my view it is not permissible to consider the Universe of Discourse as made up of two *universes*. The Universe of Discourse in Symbolic Logic means all the things that we are talking about. Now such a universe may be divided into two compartments, but each of these does not form a universe by itself. This is not a matter of mere words, but is one of principle. Within our Universe of Discourse there is not a universe of unrealities: all the members of the Universe of Dis-

course are on an equal footing as regards logical reality. The premisses decide what compartments are to be erased, *i.e.*, what members are to be declared non-existent. When the Universe of Discourse is divided into two compartments, the fact that a subdivision of one compartment is destroyed does not place that subdivision in the other compartment. The number of divisions in the Universe of Discourse is limited by the number of terms mentioned in the premisses: it is not allowable, after having arrived at our compartments in this way, to go over them and state that some of them have existence—in Mr. Russell's (a) sense—and some have not, for to do such a thing would be to *assume* the presence of a further premiss, giving this additional information. Since, then, in the same argument there cannot be two universes, it is correct, in describing 0, to speak of a class with no members rather than to speak of a universe of unrealities.

When Mr. Russell said that some meanings of existence lie 'wholly outside Symbolic Logic,' he did not mean, we may be quite sure, that the logician cannot manipulate arguments dealing with the various kinds of existence. What was meant was that Symbolic Logic, in occupying itself 'with any question whatever on which it can throw any light'—questions of existence among others—does not adopt any special meaning of existence that may be found in Metaphysics.

Mr. MacColl believes that his fundamental division into realities and unrealities supplies a method of getting rid of certain paradoxes that ordinary symbolists have to encounter; but from what I have said above it will be seen that this advantage is realised only by means of a procedure that is based on unjustifiable assumptions. He says that, whereas ordinary symbolists are led to state that 'Every round square (a null-class) is a triangle,' he can say 'No round square is a triangle'. Such a universal negative can be reached only by labelling some of the compartments real, and some unreal, and to do this two premisses are assumed, *viz.*, 'No round squares are real,' and 'All triangles are real'.

My division of the Universe of Discourse, when there are two terms 0 and 'existent,' into four compartments was only intended to show that the second and the third compartment do not constitute all the existing things in the universe. It is quite true, as Mr. MacColl suggests, that, with a premiss as to the meaning of 0, these four compartments might be decreased in number. But, when the reduction commenced, we should not proceed on the same lines, because he would say that the compartment '0-existent' is to find a place in his universe of unrealities, whereas I should say that the compartment in question has no occupants.

In the concluding paragraphs of his reply to my note Mr. MacColl, in discussing the implications $AB : A$ and $\eta : A$, introduces doctrines which cannot be discussed here, but which I have criticised in another place.[1] I can only just state that with Mr. Johnson I think (1) it is not correct to speak of propositions as 'always true,' and (2) the term 'certainly' refers to a relation in which the thinker stands to an implication, and, where such term occurs, this relation must be definitely stated before the logician has material upon which to work. And, in contradistinction to the way in which Mr. MacColl speaks at the close of his reply to Mr. Russell, I should say that it is unadvisable to think of several symbolic systems, each equal to dealing with a certain class of problems. A generalised logic should embrace all that is correct in all the so-called systems, and should be able to deal with every problem of a logical character.

A. T. SHEARMAN.

[1] In my paper, "Some Controverted Points in Symbolic Logic," *Proc. of the Arist. Soc.*, N.S., vol. v.).

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THE Sixth Annual General Meeting of the Association was held on 27th May last in King's College, Cambridge. Mrs. Bain was elected an Honorary Member of the Association in recognition of her late husband's services in founding and supporting MIND. It was resolved that the general meeting next year be in London in May or June. The following is the full list of the officers and members of the Association :—

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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY

I.—AVENARIUS' PHILOSOPHY OF PURE EXPERIENCE (II.).

By Norman Smith.

In the preceding article I have sketched the general philosophical position from which Avenarius propounds his theory of the introjectionist argument, and may now proceed to the consideration of that argument in itself. Avenarius has given two very different statements of it, one in *Der Menschliche Weltbegriff*, and the other in four articles entitled "Bemerkungen zum Begriff des Gegenstandes der Psychologie" in the *Vierteljahrsschrift*.[1] I shall start from the latter as being the more definite. Avenarius' teaching is that though the attitude of pure experience is perfectly consistent with itself, there inevitably arises at a very early stage of mental development that falsification of experience to which may be given the name introjection. It consists in a false interpretation of the experience of others which by a backstroke necessitates a similar, and equally false, interpretation of our own experience. When we look at another person we observe that the objects which he perceives lie outside him, and, arguing that the perceptions of them are in him and not outside him, we feel compelled to conclude that he does not apprehend the real external objects but only subjective images or counterparts. As this interpretation is applied by me to the experience of all other persons and is applied by all other persons to me, I feel compelled to apply it to my own world, and accordingly conclude that I do not perceive the

[1] Vol. xviii., p. 150, § 35 ff.

outer objects but only their inner copies. There must be two external worlds, the actual world in space and the apparently real but merely subjective world of each separate observer.[1] Such an argument is, as Avenarius contends,[2] obviously false. It rests on the assumption that the objects which I immediately experience as outside the body of another person are the real objects which that other person apprehends only indirectly through mental copies. That is to say, on a realistic interpretation of my own experience I base an idealistic interpretation of the experience of others. This contradiction becomes explicit when I am compelled to extend the conclusion thus reached to my own experience, for in so doing I destroy the premiss upon which the whole argument rests.

Now I have not the least intention of seeking to defend such a form of argument. Also, I do not question that in all subjectivist thinking a perpetual alternation between the realistic and the idealistic attitudes is inevitable. In one form or another the realistic assumption is always tacitly made ; and that assumption undoubtedly has its origin in the realistic attitude which we spontaneously take up towards the sensible world of immediate experience. Avenarius, in tracing the presence of this self-contradictory assumption through all the various forms of subjective idealism, has rendered a genuine service to philosophy. What I call in question is his assertion that subjective idealism not only logically implies, but finds its originating cause in, this false inference. It is to be observed that Avenarius has given no ground for the assumed necessity of the introjectionist argument save only the spatial externality of objects to the bodies of those who perceive them ; and that seems to me insufficient to account for desertion of the realistic attitude of ordinary consciousness. No one at the standpoint of pure experience can fail to observe this spatial externality, and, so far from finding it a stumbling-block and a source of problems, must surely recognise it as necessary for the very purpose of knowledge. We cannot in looking through a window see an external landscape unless the landscape actually exists outside the window, and just as little can we in looking out upon the external world through the eyes—and that is what primitive and unreflective man conceives himself as doing—see that world unless it is actually there outside the eyes. Avenarius insists that the realistic attitude of pure experience is a perfectly satisfac-

[1] Vol. xviii., p. 154, § 46. [2] *Ibid.*, § 47 ff.

tory one. From its point of view any and every possible experience can be consistently interpreted. But if so, why should one of the most universal of experiences, the experience, namely, that objects are always external to the body of the observer, or at least, as regards the parts of his own body, to the organ through which they are apprehended, inevitably lead the mind to draw self-contradictory conclusions? Why should such inconsistent conclusions be drawn from a consistent experience?

Dr. Stout in his article on introjection in Baldwin's *Philosophical Dictionary* has quoted a passage in which Herbart has anticipated Avenarius' argument. "A child sees a dog run whimpering from a stick which is raised to strike it. Immediately the child locates (*hineindenkt*) the pain of the blow in the dog; but as a *future* pain, for the dog is not yet struck. He also locates the stick in the dog, for the dog runs away from it; not, however, the *real* stick for it is outside the dog, but the stick *without its reality*, that is the image of the stick. . . . For an image is distinguished from the object represented by the fact that though not possessing its reality it yet resembles it in every other respect. In this way, then, the child is led to ascribe the representation (*Vorstellung*) of the stick to the dog and to distinguish it from its object. The child now possesses a representation of a representation, a very easy but indispensable step in the development of self-consciousness."[1] This is exactly Avenarius' argument, but the more concrete form of statement enforces the obvious objection that no child ever does argue in this way. A child would never dream of thus setting a mental copy of the stick inside the dog. The mind must become thoroughly sophisticated by reflexion on philosophical problems before it can be brought to admit, even as a possibility, that the world immediately experienced is a merely subjective copy. The child feels no difficulty in regarding objects as immediately apprehended by all observers. Just as various spectators may look out of different windows upon the same external landscape, so, the child holds, may animals and men look out through their eyes upon the actual real objects that constitute their common environment. The observers are different and so accordingly are their apprehensions or experiences, but the immediate contents of these experiences are the identical real objects. There is, of course, much difficulty as to how the child conceives the distinction between the objects and his experience of them, and as to

[1] *Psychologie als Wissenschaft*, § 133.

what is involved in the implied distinction between mind and body,[1] but even granting the possibility of the most various interpretations of these terms, it remains true that the child does not conceive the objects apprehended as being representative images or copies of external bodies. The statements of Herbart and Avenarius are therefore in flagrant contradiction with the facts. Realism is the fundamental characteristic of the standpoint of primitive man and of the child-mind, and the considerations which lead to subjective idealism, even in the Cartesian form, are quite beyond their range of vision.

The true originating cause of subjective idealism seems to me to be physiological. Subjective idealism was not definitely formulated until the physiology of the nervous system had been developed by Descartes and his contemporaries;[2] and the fundamental reason which inclined them to subjective idealism may perhaps be stated in the following simple manner. So long as the eyes can be regarded as windows through which the mind can look out, every observer may directly apprehend the real external objects. But when it is discovered that the eyes are not exits but always only entrances, that they are not passages through which the mind may issue out but only channels through which currents pass into the brain, the mind then appears to be shut off from direct communion with the external objects, and to depend for all its knowledge on mental images which in a mysterious manner accompany the brain-states. These physiological considerations apply as directly to my own experience as to that of others, and so, on the same identical grounds, I may infer that both my own experience and that of other men, though an apparently immediate apprehension of an external world, is purely subjective. Avenarius explicitly disavows this explanation.[3] Nowhere, however, does he consider it, much less refute it.

I should further contend that the subjectivist position is not a falsification of the attitude of naïve realism but a necessary step on the way to its correction. Subjective idealism may not itself be true, but the facts upon which it is based suffice to prove that naïve realism is certainly false. In the

[1] *Cf.* below, p. 156.

[2] So far as subjective idealism appears in Greek philosophy, as for instance in the philosophy of Democritus, it involves, and would seem to be due to, physical and physiological considerations.

[3] *Vierteljahrsschrift*, vol. xviii., "Bemerkungen," p. 419, § 116: "Diese logisch unberechtigte Deutung der Abhängigkeit der 'Farben,' 'Gefühle' u. s. w. vom Gehirn ist nicht der *Grund* der Introjection, sondern ihre *Folge*".

end Avenarius' own theory breaks down because of its irreconcilability with these physiological facts. As I have tried to prove in the previous article, he only escapes them by inconsistently accepting the extreme subjectivism involved in the parallelist position.

To revert, however, to my previous line of argument. Avenarius seems to have confused two quite different mental attitudes, the attitude of animism which in its full and unchecked development is found only in the primitive and savage mind but which in a modified form is still the attitude of the child-mind, and that subjective idealism which was first definitely formulated in the time of Descartes. As these two attitudes are fundamentally different, he was bound to fail in any attempt to trace them both to a common root in introjection. Being, however, profoundly impressed by Tylor's treatment of animism in *Primitive Culture*, and following Tylor in his exaggerated view of the part which animism plays in the development of theological and philosophical thought,[1] he very naturally tried to connect the Cartesian dualism, which is the stumbling-block of all naturalistic systems, and which is therefore in a very especial sense the *bête noire* of his own philosophising, with the animistic theories of primitive man. That dualism had previously compelled Avenarius to develop his naturalistic system on idealist lines.[2] The relief which he felt in escaping both idealism and dualism by readoption of the realistic attitude of natural science and physiology he has described in his introduction to the *Menschlicher Weltbegriff*.[3]

I may now turn to Avenarius' earlier statement of the introjectionist argument in the *Menschlicher Weltbegriff*. His articles in the *Vierteljahrsschrift* enter upon the problem of introjection only in so far as that is necessary in order to refute the current conception of the data of psychology, and to vindicate that view of its province which has been advocated in this country by Ward and Stout. As the current

[1] *Cf.* previous article in MIND (January, 1906), No. 57, p. 27.

[2] The stages in the gradual development of Avenarius' philosophy are clearly marked in his published works. The above interpretation of animism, together with a somewhat immature statement of his later doctrine of pure experience, is presented in *Philosophie als Denken der Welt*, but from a point of view indistinguishable from subjective idealism (*cf.* § 115 ff.). In the *Kritik* this subjectivism is rejected in favour of realism. His doctrine of introjection, as the explanation both of animism and of subjectivism, appears, however, only in the *Menschlicher Weltbegriff*. Finally, in the *Bemerkungen*, Avenarius restates the introjectionist argument, and also develops more explicitly certain aspects of his naturalistic system.

[3] Pp. ix.-x.

conception was based on subjective idealism, the theory of introjection required to be formulated only in its connexion with idealism. No direct reference is made to animism,[1] or, save very briefly, to the attitude of ordinary consciousness In *Philosophie als Denken der Welt* and in the *Kritik* Avenarius had, however, traced all the false conceptions of dualistic metaphysic to primitive animism; and the problem which still remained for solution, and which he set himself to solve in the *Menschlicher Weltbegriff*, was that of accounting for, and removing, the various dualisms (between inner and outer, soul and body, mind and matter, God and the world, etc.) into which the unity of pure experience had thus been resolved. This involved explanation of the transition from pure experience to animism and from animism to subjective idealism; and by interpreting his introjectionist argument, here propounded for the first time, now in a wider and now in a narrower sense he sought to make it yield an explanation of both these vitiating transformations of experience. With the elimination of all introjection both animism and subjectivism, and together with them every vestige of dualism, would, he claims, entirely vanish, leaving that pure experience out of which through introjection they originally emerged. To eliminate introjection is to overthrow both agnosticism and spiritualism, indeed every philosophy which asserts that there are realities which cannot be completely known or problems that cannot be completely solved by ideal completion of the existing sciences. The kind of completion which Avenarius would regard as satisfactory has already been indicated in the previous article.[2]

The introjectionist argument is stated in the *Menschlicher Weltbegriff*[3] in much the same manner as in the *Bemerkungen*, but is developed to a very different conclusion.[4] The conclusion now drawn is not that the world perceived is a mental copy of external reality but only that the perception of external objects is in the mind. Since the object which

[1] Except in a very significant note (*Vierteljahrsschrift*, vol. xviii., *Bemerkungen*, pp. 153-154) which seems to indicate consciousness of the unsatisfactory manner in which introjection and animism had been connected in the *Menschlicher Weltbegriff* (*cf.* § 56).

[2] *Cf.* previous article, pp. 25-26. [3] § 38 ff.

[4] The two views do not seem to have been distinguished by previous writers. The statement of the theory given by Ward (*Naturalism and Agnosticism*, vol. ii., p. 172) is somewhat indefinite. Taylor (*Elements of Metaphysics*, pp. 81, 299) is more explicit, but though apparently basing his statement on the *Menschlicher Weltbegriff* seems to have read into it the view of the *Bemerkungen*. Stout, on the other hand, bases his statement entirely on the latter.

another person perceives is seen by us to lie outside him, we infer that there exists in him the perception of it. "Thus in consequence of introjection [we] find on the one side the parts of the environment as 'things,' and on the other side individuals who 'apprehend' the 'things'; that is to say, 'things' on the one hand and 'perceptions of things,' or, more shortly, 'perceptions' on the other."[1] As the voice of each individual comes from within him, and as each individual locates certain feelings in organs which are as a rule inside the body, the perceptions are regarded as forming an inner world. This conclusion seems all the more inevitable as these perceptions are not discoverable on the outside (*am Aussern*) of the body.[2] The inference may therefore be stated as follows: All other persons have an outer world which they perceive or experience and each has an inner world which consists of these perceptions or experiences. The introjectionist argument is then completed through application to the self. I have an outer world which I perceive or experience and an inner world which consists of these perceptions and experiences.

Many objections to this argument at once suggest themselves. In the first place, the distinction between objects and perceptions of objects must be present in our own experience before we can infer its presence in the experience of others. Dr. Ward has stated that "the essence of introjection consists in applying to the immediate experience of my fellow-creatures conceptions which have no counterpart in my own".[3] But if the self has no conception of inner experience or of perception as something distinguishable from the objects apprehended, it could not invent the distinction by any amount of reflexion upon the spatial externality of objects to the bodies of others. Also, it is not clear why the spatial externality of objects to our own body should not in itself, without this roundabout argument through other selves, suffice to direct our attention to so fundamental a distinction as that between objects and the perception of them. But since Avenarius admits as original and primitive the distinction between characters and contents, that is to say, between experience or perception and the contents experienced or perceived, he can only mean that the introjectionist fallacy consists in transforming distinguishable aspects into separate worlds, the inseparable aspects of experience into two kinds of experience.

[1] *Menschlicher Weltbegriff*, § 43. [2] *Ibid.*, § 45.
[3] *Naturalism and Agnosticism*, vol. ii., 172.

To that the reply is that neither primitive man nor the child does thus oppose inner and outer. Here again Avenarius is interpreting the words 'inner' and 'outer' in terms of the latter subjectivism of reflective consciousness. The distinction between inner and outer, between perception and object perceived, is not in itself illegitimate and false. Everything depends upon the particular manner in which it is viewed; and when Avenarius interprets the spatial metaphor and the localisation of perceptions within the body in a quite literal fashion he is guilty of ignoring the subtleties of a highly complex and very vaguely defined position. The language which he employs to express the distinction has been created in the course of philosophical inquiry and as such is thoroughly misleading. Primitive man and the child do not use so general a term as perception or experience. They say 'I *see* the object' or 'I *touch* it,' and thus always keep in view that complexity of relations by which soul and body, mind and object, are interconnected. And no better illustration of this fact could be obtained than the animistic conception of the soul as depicted by Tylor. As Tylor has shown, and as Avenarius himself admits, the soul is not pictured by primitive man as consisting of inner experiences, nor even as the subject or bearer of such experiences, but as a duplicate of the body, itself possessing sense-organs and therefore related to objects in the same manner as the physical organism. Animism is a form of naïve realism, and indeed its extremest form, and just for that reason it always makes use of spatial metaphors, conceiving the inner body as related to the outer body as an individual is related to the house which he inhabits or the clothes which he wears.[1] It is not the dualising of experience, but the duplication of one of the objects experienced, that constitutes animism.

Avenarius' assumption that experience has been at some point in the long past of the human race, and is at some stage in the life of each child, pure experience, and that this primitive experience has been vitiated in both cases by a supervening process of introjection, aided in the case of the child though not of course in the history of the race by current thought and language, has no sufficient ground either in anthropology or in child-psychology. We may get back to a stage at which the child does not distinguish self and not-self, inner and outer, but the differentiating process by which its confused experience is articulated through these distinctions does not seem to be vitiated at some particular stage in

[1] *Cf. Menschlicher Weltbegriff*, § 59.

its development, but rather constantly to advance towards a more and more definite, more and more exact, appreciation both of the opposition between self and not-self and of their interrelations. At no stage is the development describable as a transition from a consistent and true experience to an impossible or illegitimate dualism. If at certain stages duality, such as that of soul and body in the animistic theories, is unduly emphasised, it can be said with equal truth that in the preceding stages the duality was unduly ignored. A duality that leads through animism to the idealism of Plato can only be reckoned an illegitimate development of thought by those who, like Avenarius, advocate a purely naturalistic interpretation of spiritual experience. His attempt to give logical and conclusive proof of its illegitimacy by his theory of the introjectionist argument has certainly failed. In so far as introjection goes beyond the distinction between my experience and the experience of others, that is to say, beyond the hypothesis implied in the attitude of pure experience,[1] it is not involved in animism. For, as we have just seen, though animism modifies the attitude of pure experience, the opposition which it develops is not between inner experience and the outer world, but only between an inner and an outer body. Also—to indicate a further important point—animism in its development is not determined by the introjectionist argument. For it does not originate in any fallacious inference from others to the self, but spontaneously arises as the natural explanation of a very special set of concrete phenomena—those of sleep, dreams and death. As Tylor has by reference to these concrete facts accounted for it in a satisfactory manner, a second explanation is quite superfluous.

Avenarius' conception of the part which animism has played in the development of thought is as unsatisfactory as his attempted explanation of its origin by means of introjection. His position is entirely motived by the desire to trace all the higher conceptions of religion and philosophy back to the animistic belief in visions of the dead, and so to condemn them as *Aberglaube*, as 'the shadow of a shade'. From this point of view Avenarius seeks to interpret the progress of philosophy as an inevitable development of animism through more and more subtilised forms of spiritualism back to naturalism. Philosophy, as it develops the conception of spirit, passes by completion of the dualism between it and all the objects of possible experience into

[1] *Cf.* previous article, p. 15.

agnosticism, and agnosticism, by elimination of the spiritualistic opposition of appearance and reality which it has unconsciously retained, returns to the naturalism of pure experience.[1] The various conceptions of spirit, including that of the unknowable, are the *Schutzformen* or *Beibegriffe*[2] through which the human mind has sought to maintain its inherited beliefs in face of the contrary evidence of pure experience. They are progressively modified to fit the facts as these become more fully known, but the completion of the adaptation coincides with their complete elimination. The following passage from Tylor's *Primitive Culture* may be quoted as the source from which Avenarius probably gained his point of view: "The animism of savages stands for and by itself; it explains its own origin. The animism of civilised men, while more appropriate to advanced knowledge, is in great measure only explicable as a developed product of the older and ruder system. . . . As we explore human thought onward from savage into barbarian and civilised life, we find a state of theory more conformed to positive science, but in itself less complete and

[1] *Menschlicher Weltbegriff*, § 55 (*cf. Kritik*, vol. ii., p. 281, pp. 296-297). According to Avenarius this desertion of the attitude of pure experience and consequent development through spiritualism and agnosticism back to naturalism is not only inevitable, but also fruitful as leading to a naturalism which is conscious of its own meaning and so can never again be tempted to transcend possible experience. Fechner states in a less exaggerated and much more satisfactory manner a similar, though opposed, view of the development of knowledge (*Zend-Avesta*, first edition, vol. ii., pp. 87-96). He shares Avenarius' belief in a primitive state of pure and true experience. Though the starting-point of human experience is the '*unaufgeschlossenes Ei des Glaubens*,' in which the whole truth of the Universe is contained in germ, "it was so unstable that it yielded to every idle suggestion, so uncertain of itself that it fell victim to every deceptive appearance, so little capable of grasping the parts simultaneously with the whole, that every attempt to enter more fully into the parts caused it to lose the meaning of the whole. . . . And so reality divides and subdivides itself without ceasing, becoming always clearer and more intelligible in detail, and always more meaningless (*todter*) and self-contradictory as a whole" (*Zend-Avesta*, *loc. cit.*). While Avenarius regards the completion of this development as involving a return to that attitude of pure experience which he believes to have preceded animism, Fechner with more historical justification identifies both the primitive and the final attitudes with animism. 'The axiom of the forms of knowledge,' formulated by Avenarius in the *Kritik* (*Vorwort*, p. vii) and emphasised in his earlier *Philosophie als Denken der Welt*—that scientific forms of knowledge are in all cases developments of the prescientific—does not by itself in any way justify his naturalistic conclusions. It is accepted by Fechner, as well as by all idealist writers. This is one of the many points in which Avenarius' view of the development of knowledge reveals kinship with the Hegelian philosophy.

[2] *Cf.* previous article, p. 27.

consistent. . . . The soul has given up its ethereal substance, and become an immaterial entity, 'the shadow of a shade'. Its theory is becoming separated from the investigations of biology and mental science, which now discuss the phenomena of life and thought, the senses and the intellect, the emotions and the will, on a groundwork of pure experience."[1]

Avenarius' treatment of animism has been approved in most unexpected quarters,[2] and on that account I have dwelt upon it at greater length. But surely if we were called upon to make a choice between Avenarius' condemnation of animism as the source of all false metaphysics and Fechner's idealisation of it as containing the germ of a final philosophy, we should be compelled to side with the latter. Animism is not the source of the distinction between soul and body but only the first and crudest attempt to comprehend and define their interrelations. To say, as Tylor and Avenarius both do, that the real grounds for the conception of the soul lie in primitive thinking, and that all later attempts to develop it fail to strengthen the grounds upon which it was adopted by the savage mind, is a grotesque misrepresentation of the history of human thought. Some distinction between self and not-self is present from the very start of human experience, and the philosophical value of animism may perhaps be regarded as chiefly consisting in the definiteness which it gave to that more primitive distinction—a definiteness which enabled it to take hold on the human mind and so ultimately to become a subject of scientific reflexion. As an opposition between soul and body it may or may not be tenable, as containing the germ of the distinction between mind and matter, thought and extension, it is indispensable for clearness in philosophical thinking. Avenarius' attempt to remove the distinction by contending that with the advance of knowledge it has ceased to exist even as a problem has resulted in his own case in a one-sided materialism. In overcoming the opposition of subject and object he very seriously misrepresents it. When, on the one hand, he identifies the opposition of subject and object with the distinction between character and content, by using these new and quite general terms, and by describing character and content as inseparable aspects of every experience, he escapes

[1] *Primitive Culture* (1871), i., pp. 452-453. I have not been able to find any authoritative statement as to the extent of the influence which Tylor's treatment of animism exercised on Avenarius. But that it was decisive in determining Avenarius' conception of the main stages in the development of philosophy, and of human thought generally, seems fairly obvious.

[2] *Cf.* Ward in *Naturalism and Agnosticism*, vol. ii., 172.

the duty of analysing the varied and complex forms in which they are related in special cases. And when, on the other hand, he identifies the opposition of subject and object with the distinction between self and not-self, in analysing the self into its varied factors he ignores the aspect of character or subjectivity which is the fundamental feature whereby a self is distinguished from all other objects.[1] To this separate treatment of these allied distinctions we may ascribe both the misleading plausibility and the complete failure of his attempted re-establishment of a scientific realism.

In conclusion I may sum up my criticisms of Avenarius' theory of the introjectionist argument. He gives two quite distinct and conflicting statements of it. Both cannot be true, and, as I have tried to show, both are in some degree false. If introjection is interpreted in the wider sense as covering the distinction between inner and outer, perceiving and perceived, it is a quite legitimate distinction, and one which has been formulated by Avenarius himself as the relative opposition of characters and contents. Animism, as the recognition of this duality and a first attempt to define it, is not so much the source of the subsequent errors of philosophy as the beginning of its positive development. And lastly, animism does not originate in the introjectionist argument but in the interpretation of a very special set of concrete phenomena. Avenarius, therefore, has not succeeded in proving either that introjection in this abstract form is a fallacy or that its concrete embodiment in animism is the ultimate source of metaphysical error. If, on the other hand, introjection is identified with subjective idealism, it is undoubtedly a fallacy, involving that self-contradictory alternation between the realistic and the idealistic attitudes which Avenarius has so acutely and suggestively analysed. As a title for this particular fallacy the term 'introjection' is entirely satisfactory. When Avenarius, however, presents the introjectionist argument as the generating cause of subjective idealism, his thinking is evidently perverted by a false view of the development of knowledge. He has again been misled by his confusion of animism with subjectivism, and so has been compelled to represent the latter as a universal illusion of the human mind. Such a view is refuted both by the facts of anthropology and by the actual history of philosophy. Subjectivism is a purely philosophical development which is based on physical and physiological considerations and which did not take definite form until modern times.

[1] For a fuller treatment of this important point, see previous article, pp. 20-21, 28-29.

II.—THE AMBIGUITY OF TRUTH.

By F. C. S. Schiller.

The purpose of this paper is to bring to a clear issue, and so possibly to the prospect of a settlement, the conflict of opinion now raging in the philosophic world as to the nature of the conception of 'truth'. This issue is an essential part of the greater conflict between the old intellectualist and the new 'pragmatist' school of thought which extends over the whole field of philosophy. For, in consequence of the difference between the aims and methods of the two schools, there is probably no intellectualist treatment of any problem which does not need, and will not bear, restatement in voluntarist terms. But the clash of these two great antithetical attitudes towards life is certainly more dramatic at some points than at others. The influence of belief upon thought, its value and function in knowledge, the relation of 'theory' to 'practice,' the possibility of abstracting from emotional interest, and of ignoring in logic the psychological conditions of all judgment, the connexion between knowing and being, 'truth' and 'fact,' 'origin' and 'validity,' the question of how and how far the real which is said to be 'discovered' is really 'made,' the 'plasticity' and determinable indetermination of reality, the contribution of voluntary acceptance to the constitution of 'fact,' the nature of purpose and of 'mechanism,' the value of teleology, the all-controlling presence of value-judgments and the inter-relations of their various forms, the proper meaning of 'reason,' 'faith,' 'thought,' 'will,' 'freedom,' 'necessity,' all these are critical points at which burning questions have arisen or may arise, and at all of them the new philosophy seems able to provide a distinctive and consistent treatment. Thus there is throughout the field every promise of interesting discoveries and of a successful campaign for a thoroughgoing voluntarism that unsparingly uproots the intellectualist tradition.

But the aim of the present paper must be restricted. It will be confined to one small corner of the battlefield, *viz.* to the single question of the making of 'truth' and the

meaning of a term which is more often mouthed in a passion of unreasoning loyalty than subjected to calm and logical analysis. I propose, to show (1) that such analysis is necessary and possible; (2) that it results in a problem which the current intellectualist logic can neither dismiss nor solve; (3) that to discard the abstractions of this formal logic at once renders this problem simple and soluble; (4) that to solve it is to establish the pragmatist criterion of truth; (5) that the resulting definition of truth unifies experience and rationalises a well-established classification of the sciences; and (6) I shall conclude with a twofold challenge to intellectualist logicians, failure to meet which will, I think, bring out with all desirable clearness that their system at present is as devoid of intellectual completeness as it is of practical fecundity.

My design, it will be seen, deliberately rules out the references to questions of belief, desire, and will, and their ineradicable influence upon cognition, with which Voluntarism has made so much effective play, and this although I am keenly conscious both that their presence as psychical facts in all knowing is hardly open to denial,[1] and that their recognition is essential to the full appreciation of our case. But I am desirous of meeting our adversaries as far as possible on their own ground, that of abstract logic, and of giving them every advantage of position. And so, even at the risk of reducing the real interest of my subject, I will discuss it on the ground of as 'pure,' *i.e.*, as *formal*, a logic as is compatible with the continuance of actual thinking. In other words, I will attempt as 'cut and dried' an analysis of truth as will retain any real meaning, and though I may possibly succeed better with the 'cutting' than with the 'drying,' I would deprecate beforehand objections on the score of the dulness which may probably ensue from the unnatural limitations placed upon my topic.

I. Let us begin then with the problem of analysing the conception of 'truth,' and, to clear up our ideas, let us first observe the extension of the term. We may safely lay it down that the use of truth is ἴδιον ἀνθρώπῳ, a habit peculiar to man. Animals, that is, do not attain to or use the conception. They do not effect discriminations within their experience by means of the predicates 'true' and 'false'. Again, even the philosophers who have been most prodigal

[1] In point of fact such denial has never been attempted: the inquiries as to how a 'pure' thought, abstracted from the psychological conditions of actual thinking, can validly be considered by logic have merely been ignored.

of dogmas concerning the nature of an 'infinite' intelligence (whatever that may mean!), have evinced much hesitation about attributing to it the discursive procedures of our own, and have usually hinted that it would transcend the predication of truth and falsehood. As being then a specific peculiarity of the human mind the conception of 'truth' seems closely analogous to that of 'good' and of 'beautiful,' which seem as naturally to possess antithetical predicates in the 'bad' and the 'ugly,' as the 'true' does in the 'false'. And it may be anticipated that when our psychology has quite outgrown the materialistic prejudices of its adolescence it will probably regard all these habits of judging experiences as just as distinctive and ultimate features of mental process as are the ultimate facts of our perception. In a sense therefore the predications of 'good' and 'bad,' 'true' and 'false,' etc., may take rank with the experiences of 'sweet,' 'red,' 'loud,' 'hard,' etc., as ultimate facts which need be analysed no further.[1]

We may next infer that by *a truth* we mean a proposition to which this attribute 'true' has somehow been attached, and which, consequently, is envisaged *sub specie veri*. *The truth* therefore is the totality of things to which this mode of treatment is applied or applicable, whether or not this extends over the whole of our experience.

If now all propositions which involve this predication of truth really deserved it, if all that professes and seems to be 'true' were really true, no difficulty would arise. Things would be 'true' or 'false' as simply and unambiguously as they are 'sweet' or 'sour,' 'red' or 'blue,' and nothing could disturb our judgments or convict them of illusion. But in the sphere of knowledge such, notoriously, is not the case. Our anticipations are often falsified, our claims prove frequently untenable. Our truths may turn out to be false, our goods to be bad: falsehood and error are as rampant as evil in the world of our experience.

This fact compels us (1) to an enlargement, and (2) to a distinction, in the realm of truth. For the logician 'truth' becomes a problem, enlarged so as to include 'falsity' as well, and so, strictly, our problem is the contemplation of experience *sub specie veri et falsi*. Secondly, if not all that claims truth is true, must we not distinguish this initial claim from whatever procedure subsequently justifies or validates it? *Truth, therefore, will become ambiguous*. It will mean

[1] The purport of this remark is to confute the notion, which seems dimly to underlie some intellectualist criticisms, that the specific character of the truth-predication is ignored in pragmatist quarters.

primarily a claim which may or may not turn out to be valid. It will mean, secondarily, such a claim *after* it has been tested and ratified, by processes which it behoves us to examine. In the first sense, as a claim, it will always have to be regarded with suspicion. For we shall not know whether it is really and fully true, and we shall tend to reserve this honourable predicate for what has victoriously sustained its claim. And once we realise that *a claim to truth is involved in every assertion as such*, our vigilance will be sharpened. A claim to truth, being inherent in assertion as such, will come to seem a formal and trivial thing, worth noting once for all, but possessing little real interest for knowledge. A formal logic, therefore, which restricts itself to the registration of such formal claims, we shall regard as solemn trifling; but it will seem a matter of vital importance and of agonised inquiry what it is that validates such claims and makes them really true. And with regard to any 'truth' that is asserted, our first demand will be to know what is *de facto* its condition, whether it sets forth what has been fully validated, or whether it is still a mere, and possibly a random, claim. For this evidently will make all the difference to the meaning and logical value of an assertion. That '2 + 2 = 4' and that 'truth is indefinable' stand, *e.g.*, logically on a very different footing: the one is part of a tried and tested system of arithmetical truth, the other the desperate refuge of a bankrupt or indolent theory.

Under such conditions far-reaching confusions could be avoided only by the unobtrusive operation of a beneficent providence. But that such miraculous intervention should guard logicians against the consequences of their negligence was hardly to be hoped for, and accordingly we find, *e.g.*, Prof. A. E. Taylor first laying it down that "true propositions are those which have an unconditional *claim* on our recognition" (of them as *valid* or merely of their *claim*?), and then pronouncing that "truth is just the system of propositions which have an unconditional *claim* to be recognised as *valid*".[1]

[1] In his interesting article on "Truth and Practice" in *Phil. Rev.* for May, 1905, pp. 271, 288. Italics mine. This confusion is repeatedly exemplified; *e.g.*, p. 273, "the truth of a statement means not the actual fact of its recognition" (*i.e.*, its *de facto* validity), "but its *rightful claim* on our recognition," p. 274, also on pp. 276 and 278. Prof. Taylor does not distinguish between 'claim' and 'right' and so has not seen that the question of truth is one as to when and how a 'claim' is to be recognised as 'rightful'. But he errs in the company of his master. It would be difficult to express the ambiguity we are criticising more compactly than Mr. Bradley does in the following sentences (MIND, N.S., 20, p. 470). "About the *truth* of this Law" (of Contradiction) "so far

Prof. Taylor wisely does not tell us how the clamorousness of a claim is going to establish its validity, but it is clear that his failure to observe the distinction demolishes his definition of truth. It is evident moreover that not much can be expected from theories which have overlooked so vital a distinction. Their unawareness of it will vitiate all their discussions of the nature of 'truth,' by which they will mean now the one sense, now the other, and now both, in inextricable fallacy.

II. Our provisional analysis, therefore, has resulted in our detecting an important ambiguity in the conception of truth which, unless it can be cleared up, must hopelessly vitiate all discussion. In view of this distressing situation it becomes our bounden duty to inquire *how an accepted truth may be distinguished from a mere claim, and how a claim to truth may be validated.* For any logic which aims at dealing with actual thinking the urgency of this inquiry can hardly be exaggerated. But even the most 'purely' intellectual and futilely formal theory of knowledge can hardly refuse to undertake it. For the ambiguity which raises the problem is absolutely all-pervading. And, as we saw, a formal claim to truth is coextensive with the sphere of logical judgment. We are always liable, therefore, to misinterpret every judgment. We may take as a validated truth what in point of fact is really an unsupported claim. But inasmuch as such a claim may always be erroneous, we are constantly in danger of accepting as validly true what, if tested, would be utterly untenable. Every assertion is ambiguous, and as it shows no outward indication of what it really means, we can hardly be said to know the meaning of any assertion whatsoever. On any view of logic, the disastrous and demoralising consequences of such a situation may be imagined. It is imperative therefore to distinguish sharply between the formal inclusion of a statement in the sphere of *truth-or-falsity*, and its incorporation into a system of tested truth. For unless we do so, we simply court deception.

This possibility of deception, moreover, becomes the more serious when we realise how impotent our formal logic is

as it applies, there is in my opinion no question. The question will be rather as to how far the Law applies and how far *therefore* it is *true*." The first proposition is either a truism or false. It is a truism if 'truth' is taken in the sense of 'claim'; for it then only states that a claim is good if the question of its application is waived. In any other sense of 'truth' it is false (or rather self-contradictory), since it admits that there *is* a question about the application of the 'Law'. In the second proposition it is implied that 'truth' depends not on the mere claim, but on the possibility of application.

to conceive this indispensable distinction and to guard us against so fatal a confusion. Instead of proving a help to the logician it here becomes a snare, by reason of the fundamental abstraction of its standpoint. For if, following Mr. Alfred Sidgwick's brilliant lead, we describe as formal logic every treatment of our cognitive processes which abstracts from the concrete application of our logical functions to actual cases of knowing, it is easy to see that the meaning of an assertion can never be determined apart from the actual application. From the mere verbal form, that is, we cannot tell whether we are dealing with a valid judgment or a sheer claim. To settle this, we must go behind the statement: we must go into the rights of the case. Meaning depends upon purpose, and purpose is a question of fact, of the context and use of the form of words in actual knowing. But all this is just what the abstract standpoint of formal logic forbids us to examine. It conceives the meaning of a proposition to be somehow inherent in it as a form of words, apart from its use. And so when it finds that the same words may be used to convey a variety of meanings in various contexts, it solemnly declares the form of judgment to be as such ambiguous, even though in each actual case of use the meaning intended may be perfectly clear to the meanest understanding! It seems to me extremely doubtful, therefore, whether a genuine admission of the validity of our distinction could be extracted from any formal logician. For it is greatly to be feared that even if he could be induced to admit it in words, he would yet insist on treating it too as purely formal, and rule out on principle attempts to determine how *de facto* the distinction was established and employed.

Although, therefore, our distinction appears to be as clear as it is important, it does not seem at all certain that it would be admitted by the logicians who are so enamoured of truth in the abstract that they have ceased to recognise it in the concrete. More probably they would protest that logic was being conducted back to the old puzzle of a general criterion of truth and error, and would adduce the failures of their predecessors as a valid excuse for their present apathy. Or at most they might concede that a distinction between a truth and a claim to truth must indeed be made, but allege that it could not take any but a negative form. The sole criterion of truth, that is, which can be given, is that truth is not self-contradictory or incoherent. This statement, of course, is merely dogmatic assertion: it can hardly inspire confidence so long as it precedes and precludes examination

of the positive solutions of the problem, and assumes the conceptions of 'self-contradiction' or 'incoherence' as the simplest things in the world. In point of fact neither of them has been adequately analysed by intellectualist logicians, nor is either of them naturally so translucent as to shed a flood of light on any subject. As, however, I cannot now enter upon their obscurities, it must suffice to remark that Capt. Knox's masterly article in the April (1905) number of MIND[1] contains ample justification for what I have said about the principle of contradiction. If on the other hand the 'negative criterion' be stated in the form of incoherence, I would inquire merely how intellectualist logic proposes to distinguish the logical coherence, to which it appeals, from the psychological coherence, which it despises. Until this difficult (or impossible?) feat has been achieved, we may safely move on.[2]

III. Let us proceed therefore to discard old prejudices and to consider how in point of fact we discriminate between 'claims' and 'truths,' how the raw material of a science is elaborated into its final structure, how in short, truth is made. Now this question is not intrinsically a hopeless one. It is not even theoretically particularly difficult to answer. For it concerns essentially facts which may be observed, and with care and attention it should be possible to determine whether the procedures of the various sciences have anything in common, and if so what. By such an inductive appeal to the facts, therefore, we greatly simplify our problem, and may possibly discover its solution. Any obstacle which we may encounter will come merely from the difficulty of intelligently observing the special procedures of the many sciences and of seizing their salient points and general import; we shall not be foredoomed to failure by any intrinsic absurdity of our enterprise.

Now it would be possible, I think, to arrive at our solution by a critical examination of every known science in detail, but it is evident that this procedure would be very long and laborious. It seems better, therefore, merely to state the condensed results of such investigations. They will in this shape stand out more clearly and better exhibit the trend of an argument which runs as follows.

It being taken as established that the sphere of logic is that of the antithetical valuations 'true' and 'false,' we observe in the first place that in every science the truth or falsehood of an answer depends on its relevance to the

[1] N.S., No. 54. [2] *Cf.* also *Humanism*, pp. 52-53.

question raised in that science. An irrelevant answer is justly treated as non-existent for that science, *i.e.* as, strictly, neither 'true' nor 'false'. We observe, secondly, that every science has a definitely circumscribed subject-matter, a definite method of treating it, and a definitely articulated body of interpretations. Every science, in other words, forms a system of truths about some subject. But inasmuch as every science is concerned with some aspect of our total experience, and no science deals with that whole under every aspect, it is clear that sciences arise by the limitation of subjects, the selection of standpoints, and the specialisation of methods. All these operations, however, are artificial, and in a sense arbitrary, and none of them can be conceived to come about except by the action of a purposing intelligence. It follows that the nature of the *purpose* which is pursued in a science will yield the deepest insight into its nature; for what we want to know in the science will determine the questions we put, and their bearing on the questions put will determine the standing of the answers we attain. If we can take the answers as relevant to our questions and conducive to our ends, they will yield 'truth'; if we cannot, 'falsehood'.

Seeing thus that everywhere truth and falsehood depend on the purpose which constitutes the science and are bestowed accordingly, we begin to perceive that the predicates 'true' and 'false' are not unrelated to 'good' and 'bad'. For good and bad also have reference to purpose. 'Good' is what conduces to, 'bad' what thwarts, a purpose. And so it would seem that 'true' and 'false' were valuations, forms of the 'good'-or-'bad' which indicates a reference to an end. Or, as Aristotle said long ago, in a passage the significance of which I am ashamed to have observed only quite recently, "in the case of the intelligence which is theoretical, and neither practical nor productive, its 'good' and 'bad' is 'truth' and 'falsehood'".[1]

Truth then, being a valuation, has reference to a purpose. What precisely that reference is will depend on the purpose, which may extend over the whole range of human interest. But it is only in its primary aspect, as valued by individuals, that the predication of 'truth' will refer thus widely to any purpose any one may entertain in a cognitive operation. For it stands to reason that the power of constituting 'objective' truth is not granted so easily. Society exercises

[1] *Eth. Nic.*, vi., 2, 3. *Cf. De Anim.*, iii., 7, 431, *b* 10, where it is stated that "the true and false are in the same class with the good and bad," *i.e.*, are valuations.

almost as severe a control over the intellectual as over the moral eccentricities and nonconformities of its members; indeed it often so organises itself as to render the recognition of *new* truth nearly impossible. Whatever therefore individuals may recognise and value as 'true,' the 'truths' which *de facto* prevail and are recognised as objective will only be a *selection* from those we are subjectively tempted to recognise. There is therefore no real danger lest this analysis should destroy the 'objectivity' of truth and enthrone subjective licence in its place.

A further convergence in our truth-valuations is produced by the natural tendency to subordinate all ends or purposes to the ultimate end or final purpose, 'the Good'. For in theory, at least, the 'goods,' and therefore the 'truths,' of all the sciences are unified and validated by their relation to the Supreme Good. In practice no doubt this ideal is far from being realised, and there arise at various points conflicts between the various sorts of values or goods, which doubtless will continue until a perfect harmony of all our purposes, scientific, moral, æsthetic and emotional has been achieved. Such conflicts may, of course, be made occasions for theatrically opposing 'truth' to 'goodness,' 'virtue' to 'happiness,' 'science' to 'art,' etc., and afford much scope for dithyrambic declamation. But a sober and clear-headed thought will not be intolerant nor disposed to treat such oppositions as final and absolute: even where under the circumstances their reality must provisionally be admitted, it will essay rather to evaluate each claim with reference to the highest conception of ultimate good which for the time being seems attainable. It will be very chary, therefore, of sacrificing either side beyond recall; it will neither allow the claims of truth to oppress those of moral virtue nor those of moral virtue to suppress art. But it will still more decidedly hold aloof from the quixotic attempt to conceive the sphere of each valuation as independent and as wholly severed from the rest.

IV. We have seen so far that truth is a form of value, and the logical judgment a valuation; but we have not yet raised the question as to what prompts us in bestowing or withholding this value, what are our guiding principles in thus evaluating our experience. The answer to this question takes us straight into the heart of Pragmatism. Nay, the answer to this question *is* Pragmatism, and gives the sense in which Pragmatism professes to have a criterion of truth. For the pragmatist contends that he has an answer which is simple, and open to inspection and easily tested. He

simply bids us go to the facts and observe the actual operations of our knowing. If we will but do this, we shall 'discover' that in all actual knowing the question whether an assertion is 'true' or 'false' is decided uniformly and very simply. It is decided, that is, by its consequences, by its bearing on the interest which prompted to the assertion, by its relation to the purpose which put the question To add to this that the consequences must be *good* is superfluous. For if and so far as an assertion satisfies or forwards the purpose of the inquiry to which it owes its being, it is so far 'true'; if and so far as it thwarts or baffles it, it is unworkable, unserviceable, 'false'. And 'true' and 'false,' we have seen, are the intellectual forms of 'good' and 'bad'. Or in other words, a 'truth' is what is useful in building up a science; a 'falsehood' what is useless or noxious for this same purpose. To determine therefore whether any answer to any question is 'true' or 'false,' we have merely to note its effect upon the inquiry in which we are interested, and in relation to which it has arisen. And if these effects are favourable, the answer is 'true' and 'good' for our purpose, and 'useful' as a means to the end we pursue.[1] Here then we have exposed to view the whole rationale of Pragmatism, the source of the famous paradoxes that 'truth' depends on its consequences, that the 'true' must be 'good' and 'useful' and 'practical'. I confess that to me they have never seemed more than truisms so simple that I used to fear lest too elaborate an insistence on them should be taken as an insult to the intelligence of my readers. But experience has shown that I was too sanguine, and now I even feel impelled to guard still further against two possible misapprehensions into which an unthinking philosopher might fall.

I would venture to point out in the first place that when we said that truth was estimated by its consequences for some purpose, we were speaking subject to the social character of truth, and quite formally. What consequences are relevant to what purposes depends, of course, on the subject-matter of each science, and may sometimes be in doubt, when the question may be interpreted in several contexts. But as a rule the character of the question sufficiently de-

[1] Strictly both the 'true' and the 'false' answers are, as Mr. Sidgwick says, subdivisions of the 'relevant,' and the irrelevant is really unmeaning. But the unmeaning seems to be relevant until it is detected; it baffles our purpose as surely as the 'false,' and the 'false' answer does not mean what we meant to get, *viz.*, something we can work with, and is so far unmeaning. Hence there is no great harm in treating all that *fails* us as '*false*'.

fines the relevant answer which can be treated as true. It is not necessary therefore seriously to contemplate absurdities such as *e.g.* the intrusion of ethical or æsthetical motives into the estimation of mathematical truths, or to refute claims that the isosceles triangle is more virtuous than the scalene, or an integer nobler than a vulgar fraction, or that gravitating bodies must move not in ellipses but in circles, because the circle is the most perfect figure. Pragmatism is far less likely to countenance such confusions than the intellectualist theories from which I drew my last illustration. In some cases doubtless, as in many problems of history and religion, there will be found deep-seated and enduring differences of opinion as to what consequences and what tests may be adduced as relevant: but these differences already exist, and are in no wise created by being recognised and explained. Pragmatism, however, by enlarging our notions of what constitutes relevant evidence is far more likely to conduce to their amicable settlement than the intellectualisms which condemn all faith as inherently irrational and irrelevant to knowledge And ideally and in principle such disagreements as to the ends which are relevant to the estimation of any evidence are always capable of being composed by an appeal to the supreme purpose which unifies and harmonises all our ends: in practice no doubt we are hardly aware of this, nor agreed as to what it is; but the blame, surely, attaches to the distracted state of our thoughts and not to the pragmatic analysis of truth. For it would surely be preposterous to expect a mere theory of knowledge to adjudicate upon and settle offhand by sheer dint of logic all the disputed questions in all the sciences.

My second caution refers to the fact that I have made the predication of truth dependent on relevance to a proximate rather than an ultimate scientific purpose. This I have done because I believe it represents our actual procedure. The ordinary 'truths' we predicate have little or no concern with ultimate ends and realities. They are true (at least *pro tem.*) if they serve their immediate purpose. If any one hereafter chooses to question them, he is at liberty to do so, and if he can make out his case, to reject them for their inadequacy for his ulterior purposes. But even when the venue and the context of the question have thus been changed, and so its meaning, the truth of the original answer is not thereby abolished. It may have been degraded and reduced to a methodological status, but this is merely to affirm that what is true and serviceable for one purpose is not necessarily so for another. And in any case it is time perhaps to cease

complaining that a truth capable of being improved on, *i.e.* capable of *growing*, is so far not absolutely true and therefore somewhat false, and worthy of contempt. For such complaints spring from an *arbitrary* interpretation of a situation that might more sensibly be envisaged as meaning that none of the falsehoods, out of which our knowledge struggles in its growth, is ever wholly false. But in actual knowing we are not concerned with such arbitrary phrases, but with the bearing of an answer on a question actually propounded. And whatever really answers is really 'true,' even though it may at once be turned into a stepping-stone to higher truth.[1]

V. We now find ourselves in a position to lay down some pragmatic definitions. Truth we may define as logical value, and a claim to truth as a claim to possess such value. The validation of such claims proceeds, we hold, by the pragmatic test, *i.e.*, by experience of their effect upon the bodies of established truth which they affect. It is evident that in this sense truth will admit of degrees, extending from the humble truth which satisfies *some* purpose, even though it only be the lowly purpose of some subordinate end, to that ineffable ideal which would satisfy *every* purpose and unify all endeavours. But the main emphasis will clearly fall on the former: for to perfect truth we do not yet attain, and after all even the humblest truth may hold its ground with-

[1] If therefore we realise that we are concerned with human truth alone there is nothing paradoxical in affirmatively answering Prof. A. E. Taylor's question (*Phil. Rev.*, xiv., 268) as to whether "the truth of a newly discovered theorem is created by the fact of its discovery". He asks "did the doctrine of the earth's motion become true when enunciated by the Pythagoreans, false again when men forgot the Pythagorean astronomy, and true a second time on the publication of the book of Copernicus?" If we grant (what is, I suppose, the case) that the Pythagorean, Ptolemaic and Copernican systems represent stages in a progressive approximation to an adequate account of celestial motions, it is clear that each of them was esteemed 'true' while it seemed adequate, and became 'false' when it was improved on. A very slight improvement, moreover, might occasion such a change in valuation. Prof. Taylor has failed to observe that he has conceived the scientific problem too loosely in grouping together the Pythagorean and the Copernican theory as alike cases of the earth's motion. No doubt they may both be so denominated, but the scientific value of the two theories was very different, and the Ptolemaic system is intermediate in value as well as in time. He might just as well have argued that the emission theory of light was true all along because the discovery of radioactivity has forced its undulatory rival to admit that light is sometimes produced by the impact of corpuscles. Perhaps also the pragmatic doctrine has given him offence because he has mistakenly conceived the *making* of truth as a *creation*. But it should by this time be unnecessary to point out that truth is not made out of nothing but out of earlier 'truth,' and that the notion of a creation out of nothing is pseudo-theological.

out suffering rejection. No truth moreover can do more than do its duty and fulfil its function.

I hope that these definitions will have sufficiently borne out the claim made at the beginning that the pragmatic view of truth unifies experience and rationalises the classification of the normative sciences; but it may not be amiss to add a few words on both these topics. That, in the first place, the conception of the logical judgment as a form of valuation connects it with our other valuations and represents it as an integral part of the ἔφεσις τοῦ ἀγαθοῦ, of the purposive reaction upon the universe which bestows dignity and grandeur upon the struggle of human life is, I take it, evident. The theoretic importance of this conception is capital. It is easily and absolutely fatal to every form of Naturalism. For if every 'fact' upon which any naturalistic system relies is at bottom a valuation, arrived at by selection and purposive manipulation, there is a manifest absurdity in eliminating the human reference from results which have implied it at every step. The pragmatic doctrine (at all events in its 'humanist' development) affords a protection against Naturalism which ought to be the more appreciated by those interested in taking a 'spiritual' view of life now that it has become pretty clear that the protection afforded by idealistic absolutism is quite illusory. For the 'spiritual nature of the Absolute' does nothing to succour the human aspirations strangled in the coils of materialism: 'absolute spirit' need merely be conceived naturalistically to become as impotent to aid the theologian and the moralist as it has long been seen to be to help the scientist.

And the unification of logic with the other normative sciences is even more valuable practically than theoretically. For it vindicates man's right to present his claims upon the universe in their integrity, as a demand not for Truth alone, but for Goodness, Beauty and Happiness as well, commingled with each other in a fusion one and indiscerptible; and what perhaps is for the moment more important still, it justifies our efforts to bring about such a union as we desire. Whether this ideal can be attained, cannot, of course, be certainly predicted; but a philosophy which gives us the right to aspire, and inspires us with the daring to attempt, is surely a great improvement on monisms which, like Spinoza's, crush us with blank and illogical denials of the relevance of human valuations to the truth of things.

In technical philosophy however it is good form to profess more interest in the formal relations of the sciences than in the cosmic claims and destinies of man, and so I hasten

to point out the signal aid which pragmatism affords to a symmetrical classification of the sciences. If truth also is a valuation, we can understand why logic should be a normative science along with ethics and æsthetics: if all the natural sciences make use of logical judgments and lay claim to logical values, we can understand also how and why the normative sciences have dominion over them. And lastly we find that the antithetical valuations and the distinction between claims and their selection into norms run through all the normative sciences in a perfectly analogous way. Just as not everything is true which claims truth, so not everything is good or right or beautiful which claims to be so, while ultimately all these claims are judged by their relation to the perfect harmony which forms our final aspiration.

VI. I promised at the outset to conclude this paper with a twofold challenge, and now that I have set forth as well as I am able the advantages proffered by the pragmatic view of truth I will revert to this challenge, in a spirit not of contentiousness so much as of anxious inquiry. For I fear that a really resolute adherent of the intellectualist tradition would be unmoved and unconvinced by anything I, or any one, could say. He would simply close his eyes and seal his ears, and recite his creed. And perhaps no man yet was ever convinced of philosophic truth against his will. But there are beginning to be signs (and even wonders) that our intellectualism is growing less resolute. And so perhaps even those who are not yet willing to face the new solutions can be brought to see the gaps in the old. If therefore we bring these to their notice very humbly, but very persistently, we may enable them to see that the old intellectualism has left its victims unprovided with answers to two very momentous questions. Let us ask, therefore, how, upon its assumptions, they propose (1) to evaluate a claim to truth, and (2) to discriminate between such a claim and an established truth? These two questions constitute the first part of my challenge. They are, I think, good questions, and such that from any theory of knowledge with pretensions to completeness an answer may fairly be demanded. And if such an answer exists, it is so vital to the whole case of intellectualism that it may fairly be required to produce it. If it is not produced, we will be patient, and hope that some day we may be vouchsafed a revelation of esoteric truth; but human nature is weak and the longer the delay the stronger will grow the suspicion that there is nothing to produce.

The second part of my challenge refers to the intellectu-

alist's rejection of our solution. If we are so very wrong in our very plain and positive assertion that the validity of a truth (claim) is tested and established by the value of its consequences, there ought surely to be no difficulty about producing abundant cases in which the truth of a doubtful assertion is established in some *other* way. I would ask, therefore, for the favour of *one clear case of this kind*.[1] And I make only one stipulation. It should be a case in which there really was a question, so that the *true* answer might have, before examination, turned out *false*. For without this provision we should get no illustration of actual knowing, such as was contemplated by the pragmatist, whose theory professes to discriminate cases in which there is a real chance of acquiring truth and a real risk of falling into falsity. If on the other hand specimens merely of indubitable or verbal truths were adduced, and it were asserted that these were true not because they were useful, but simply because they were true, we should end merely in a wrangle about the historical pedigree of the truth. I should contend that it was at one time doubtful, and accepted as true because of its tested utility: my opponent would dispute my derivation and assert that it had always been true. We should agree that it was *now* indisputable, we should disagree about the origin of this feature; and the past history would usually be too little known to establish either view. And so we should get no nearer to a settlement.

By observing on the other hand *truth in the making*, inferences may be drawn to the nature of truth *already made*. And whether truth is by nature pragmatic, or whether this is a foul aspersion on her character, it is surely most desirable that this point should be settled. Hitherto the chief obstacle to such a decision has been the fact that while in public (and still more in private) there has been much misconception, misrepresentation and abuse of our views, there have been no serious attempts to contest directly, unequivocally, and outright, *any* of our cardinal assertions.[2] And what perhaps is still more singular, our critics have been completely reticent

[1] Since this was written Prof. Taylor has attempted to answer an earlier form of this challenge in the last number of MIND. I shall discuss his article in the next number.

[2] Prof. Taylor may now perhaps be said to have supplied this desideratum by denying that psychology has any relevance to logic (*loc. cit.*, pp. 267, 287). And yet immediately after (p. 287) he feels constrained to argue that the efficient cause of his accepting any belief as true is a specific form of emotion! I should have thought that the fact that no truth could be accepted without this feeling constituted a pretty substantial connexion between psychology and logic.

as to what alternative solutions to the issues raised they felt themselves in a position to propound. The whole situation is so strange, and so discreditable to the *prestige* of philosophy, that it is earnestly to be hoped that of the many renowned logicians who so vehemently differ from us some should at length see (and show us!) their way to refute these 'heresies' as clearly and articulately as their *θυμοειδὲς* permits their *φιλόσοφον* to express itself.

III.—PSYCHOLOGY AND PHILOSOPHY OF PLAY (II.).

By W. H. Winch.

VIII.—Philosophy of Play—(i.) Surplus Energy Theory.

"Plays are occasioned by the diversion into certain relatively definite channels of surplus, so-called 'spontaneous,' energies which have resulted from hypernutrition, but which have been given no opportunity to express themselves in activities." [1]

"It is the surplus vigour in more highly developed organisms, exceeding what is required for immediate needs, in which play of all kinds takes its rise, manifesting itself by way of imitation or repetition of all those efforts and exertions which are essential to the maintenance of life." [2]

This general conception seems at first so clear as to be truistic. When we have done our work we cannot play unless we have a surplusage of energy over that which our work demanded from us.

Moreover, it is within the experience of all of us, how very ready we are, when feeling well and strong, to make efforts and exertions beyond those which are essential to the maintenance of life.

I do not think it is an inadequate statement of this theory to say that play arises when we have done our work and are more abundantly fed than the work requires.

But does this surplus vigour always manifest itself "by way of repetition of all those efforts and exertions which are essential to life"?

It is true that many grow so habituated to certain work that they continue it when ends external to the work itself are no longer served.

This seems to be what Mr. Herbert Spencer has in view

[1] *Instinct and Reason*, H. R. Marshall, p. 158.
[2] R. Wallaschek, Mind, xvi., p. 376.

when he says: "Though in many cases this pleasurable consciousness has originally grown out of the representations of benefits to be gained, yet it has come to be a pleasurable consciousness in the object or act apart from anything beyond".

But we may at least urge that if we confine ourselves to the individual life this does not represent the bulk of typical play. Common sense, where man is concerned, calls it work for work's sake, and not play at all.

And other difficulties arise. Only within limits can what we call energy be drafted off from work channels to play channels, and *vice versâ*; and the greatest difficulty attaching to the acceptance of the central doctrine of this theory lies in the fact that there is plenty of energy for play when none is available for work. The playful child in school is often not a being of superior, but of deficient energy; and the extremely playful ways of the town product, known variously as gamin, larrikin, peeky-blinder, Bowery boy, hooligan, are very familiar. His superfluous energies are not remarkable for quantity, one would suppose. Nor would any one, who had successfully incited young animals to play when apparently thoroughly tired out, lay very much stress on the necessity for superfluous energy.

We must, I think, notwithstanding its plausibility, deny that the surplus energy theory covers more than a few of the facts and fails to account for the majority of them.

IX. Philosophy of Play—(ii.) Preparation Theory, i.

The hypothesis last considered represents an attempt to give us the condition of the possibility of play, but does not attempt to account for the forms which play assumes. Such an attempt is made by the preparation theory.

There is, apparently, no difficulty in holding these two theories in conjunction, and this seems to be the position of Mr. H. Rutgers Marshall, who writes:—

"Nature has formed within us tendencies to direct these energies into channels that give practice in directions in which skill is, or will presently be, of value to us. It is a commonplace that the plays of children make them ready for activities of after life; the girl's plays with dolls tell of future maternal activities; the boy's plays correspondingly tell of the world's battles he is to wage, often indeed reflecting the actual physical contests in which he would take part were he not held back from barbarism by the civilisation in which he lives. In like manner the plays of mature men

and women lead them to practise in directions which are likely to be advantageous in after life." [1] We may compare with this P. Sourian, who says, the need of movement is especially great in the young animal, "because he has to try all the movements which it is necessary for him to make in later life".[2]

Applied to the human being such a doctrine involves the complete reversal of common-sense conceptions. As to the teleological aspect of the question I say nothing, but ask whether the essence of play, as we know it, consists in the fact that it is preparatory to the serious work of life. We know that in the case of human beings, it is just that need of preparation which makes us very seriously limit the time and energy which would be given to play, and though

> All work and no play
> Makes Jack a dull boy,

so also

> No work and all play
> Sends Jack back to savagery.

For the spontaneous playful life of the average child appears rather to reflect an adult past, and needs considerable pruning and cultivation before being adapted to adult life of to-day.

The young animal trying all "the movements necessary in after life" is not the human boy. Is it the young of any animal? These early movements are said to be such as enable the animal to become proficient in some activity connected with the maintenance of his own life or that of his species.

I am doubtful whether our knowledge of the precise differences and similarities of the movements of the young and adult animal are always, or often, such as enable us to be sure that the playful activity of the young is more a preparation than a hindrance. A point just now keenly debated in educational theory will illustrate this question. Very young children, when drawing spontaneously, do not flex the wrist, but draw in a way which may be roughly described as from the shoulder. By-and-by such of them as continue to draw spontaneously come to draw from the wrist, and the shoulder drawing gradually dies down, so much so that teachers who have to pass an examination in black-board drawing have to *relearn* it. But the bulk of the pupils in the schools will not require shoulder drawing when they grow up. Are we to assume that Nature's process must be the one possible pro-

[1] *Instinct and Reason*, p. 158.
[2] "Le plaisir du mouvement," *Revue Scientifique*, xvii., p. 365.

cess educationally, and must we begin with drawing from the shoulder? May we not rather by so doing fix a habit which will become an obstacle to the drawing we need?

I purposely give a case where at present, perhaps, no decided answer is possible, as this more adequately brings out the premisses of the theory.

But it may fairly be said that the spontaneous activity of the young of animals other than man does seem to be preparatory, whilst that of man does not, to anything like the same degree, at any rate.

I suggest the following explanation. We are accustomed to consider the play of animals which are going to live exactly as their forebears, whilst with man we know that social environment changes, and demands new operations and readjustments. But consider the play of an animal whose necessities are supplied. The weaver bird will never again require to build its own nest. The squirrel need not bury nuts. The cat is now supplied from the household larder. And male birds (and human beings too) sing on when courtship is over. Yet they repeat the activities that once were necessary. That is, play goes on after, as well as before, the serious activities for which it is supposed to be a preparation; the necessities of the past become the amusements of the present. And in beliefs we have the same general results as in actions.

I have referred to the characteristics of primitive notions of reality. What becomes of these primitive beliefs and how do they decay?

We seem to have a useful analogy in what are called rudimentary organs. It is well known that man bears about with him traces of a long line of ancestry, organic structures hastening to decay, yet demanding some sustenance, and occasionally, in individuals, functioning with vigour, yet seeming less and less to form a coherent whole with the rest of the organism. A psychological parallel can be established. "A careful examination of games reveals the fact that they originated not as pastimes, but as serious divinatory contests."[1] Children "perpetuate games that have otherwise disappeared".

"The children's song-game of to-day, 'Here I brew, here I bake,' carries us back to the childhood of the race when, as Payot says of man's willing, his working was done with the co-operation of all his faculties, hands, body, voice, all have their share in the task."[2]

[1] President's address to the American Folk-lore Society, Baltimore, 1897.

[2] *The Child*, Dr. A. F. Chamberlain, p. 21.

This so-called co-operation of all the faculties, which I suspect is accounted a good thing, is rather an uninhibited display of associated movement. We know how many a youthful penman waggles his lolled-out tongue while painfully forming his smudgy strokes, how the embryonic pianist wriggles much more of himself than his fingers. Some years ago I was continuously occupied with a boys' football club. It was delightful to watch how mere rowdy gesticulation and scattered impulse gave way to quiet, fast, well-inhibited movement, and attention dead-centred on the ball. *Now* the 'faculties' were really co-operating, that is, they were working to one end without waste of energy. I am constrained to introduce this short discussion mainly because of its pedagogical reference. There is too great a tendency in much infant-school work of to-day to noisy and redundant movements; this, too, is said to be work with all the faculties; really it is but a survival of the primitive diffused excitement which only with difficulty becomes definitely localised and applied, without waste and excess, to a particular end. We may need pedagogically to adopt such a method in some instances; as when we introduce arithmetic by the counting of objects, or of movements which we can see in place of the later and finally sufficient movements of attention. But they are mere accessories to secure the direction of attention, and we should discard them as soon as possible. They are survivals of a primitive type.

"The account of games and plays of children collected by Mr. W. H. Newell and Mrs. Gomme affords innumerable examples of the child's reflexion of the labours and duties of the past," and Prof. Groos says:[1] "Play will in general serve more to tone down instincts already present than to strengthen them or create entirely new ones". This latter sentence requires comment, for whilst heartily agreeing that our more primitive instincts are eased off by play, yet how does such a view consist with Prof. Groos' theory that play is a divinely appointed preparation for the work of life, except, of course, in this purely negative sense.

I heartily agree that primitive instincts are eased off by play. It is extremely characteristic of school children when charged with some barbarity to their fellows to answer: "If you please, I was only playing". And many school teachers owe their success to their wisdom in drafting off the bellicose into cricket and football clubs, and so toning off the instinct to fight.

[1] *Play of Man*, p. 692.

But this is not, strictly speaking, exercising the instinct, it is diverting its muscular concomitants, and that perhaps is what is meant in the above quotation from Prof. Groos. But it seems difficult to connect this dictum with his general theory, *viz.*, that play is a divinely appointed means of preparation for the work of life. For, according to this, play neither strengthens instincts nor creates new ones, but rather tones down old ones. I can understand the view that regards the young animal as possessing and exercising organs in embryo before their extended and serious use in adult life gives them a 'survival value'; and that play is just a preliminary practice (*Vorübung*) or preparatory practice (*Einübung*) of these embryonic organs. This is an intelligible hypothesis, but it is difficult to maintain it in conjunction with the view that the function of play is to tone down the old and ease its decay, and not to strengthen growing instincts. Yet I do not think I entirely misunderstand Prof. Groos, for he is very loth to call love-plays plays at all, because love-play "differs from all that we have previously considered in being not mere practice preparatory to the exercise of an instinct, but rather its actual working". But he further says:[1] "It would seem to be firmly established that, among birds at least, the arts of courtship are practised as youthful sport before the time for reproduction," and, for my part, I do not know how we should class all the philanderings and flirtings of the human male and female from fairly early childhood unless we call them play. Love-plays seem to me the most indubitable case of a preparation or practice for later serious activities, though even here there are considerations which should make us pause. We cannot apply the doctrine of concomitant variations with success; we cannot say, the more preparation of this sort, the more success in rearing a family; and the 'new woman' is, I believe, as a child, as partial to dolls as other women.

We do not usually regard precocity in sexual matters as a good thing at all. The doctrine that practice makes perfect has in this connexion often borne immoral consequences.

The distinction, however, between preparation and practice on the one hand and exercise on the other gives rise to many difficulties. Is a boy playing with a gun exercising his soldierly instinct, or is he only preparing to exercise that instinct? Is a girl playing with a doll preparing for the development of the maternal instinct, or exercising an embryonic maternal instinct?

[1] *Play of Animals*, p. 256.

An endeavour to answer a few questions of this kind shows how very difficult the application of the distinction may be. This consideration, however, is not fatal to a definition. We always expect difficult marginal cases, and my aim is rather to take large groups of activities which seem favourable or unfavourable to the theory, such as the spontaneous activities of genius.

X. Philosophy of Play—(iii.) Preparation Theory, ii.

Play, as we have said above, on this theory, is regarded as a divinely appointed means, whereby the functions of adult life are prepared for. Evolution itself, in so far as man and the higher animals are in advance of the lower, is rendered possible by a long period of adolescence which is regarded as opportunity for play. And this view would seem to be supported by the general truth that an increasing period of immaturity seems characteristic of the higher animals, however much we may doubt the teleological explanation given.

It is interesting and valuable to compare with this view the general conceptions which underlie our notions of precocity.

Precocious people are those who manifest at an unusually early age the characteristics which are mostly exhibited at a later one. There seems a very direct preparation in many cases for the work of adult life. In the biographies of men of genius no characteristic is more striking than the early age at which their especial bent becomes apparent. Psychologically, it is true, we might call such activities play, but they are not *Vorübung*, nor *Einübung*, but *Ausübung*; and the Preparation theory can hardly call these activities its own.

A long period in which the animal plays before entering upon the work of life is, on that theory, demanded as a *sine quâ non* of evolutionary progress. The lower animals, on this view, are the lower animals because they begin their life work almost at once, with very little preliminary play. Yet the genius, the progressive force *par excellence*, differs from ordinary mortals in beginning his life work very early. Nor is it possible to dismiss this argument by reference to the admittedly abnormal and irregular character of genius. For if we descend a little lower in the scale and take that much larger class, the men of ability, to whom Galton applied the term genius, what shall we find?

We do not see, indeed, so early a specialisation in any particular direction; that is readily admitted. Nor should we expect it, for the characteristic of ability as distinct from genius is its relatively unspecialised nature. But we do find

a very early devotion to work of some kind. Such men can ' play ' and play well ; but work, whether at school or university, in the classes of a polytechnic, or in the early conduct of business, absorbs their powers and almost monopolises their attention. They, too, then, begin their life work early, or at least begin a systematic and intentional preparation for it which is very far removed from the sort of preparation afforded by the unregulated spontaneities of play.

Here then, assuredly, we have a class of facts which the preparation theory will find it very hard to embrace. Extended play is said to be a condition of evolutionary progress, whilst the human factors, who most completely, if not entirely, exemplify that evolution, are the very ones who do not show the extended play period required by the theory.

Perhaps one may be permitted to make a suggestion which would account for the vogue of this conception.

Extended adolescence, extended preparation, no doubt mark a high position in Nature's scale ; we find the same thing enforced in civilised society. Scarcely any positions of much social importance are given to any who have not passed through a long professional training. Wage earning and remunerative work begin late. But this is hardly because the individuals in question have been playing all the time. So much is the case otherwise that, when Mrs. Humphry Ward in *Robert Elsmere* wonders how it is that in preparing for one's life-work one must reduce one's self to the verge of death in the process, we allow much justification for the rhetorical exaggeration.

And Prof. Lloyd Morgan's work on the lower animals indicates that they too owe very much to deliberate education on the part of their parents or other members of the social group to which they belong.

But are all these extended preparations the preparations of play? The question seems only to admit of a negative answer. So that whilst it is perfectly true that an extended period of immaturity and preparation is a marked characteristic of the higher animals, the value of this period does not arise because there is more time for play, but because there is a longer period of comparative plasticity during which deliberate education may go on.

XI. Philosophy of Play—(iv.) Recapitulation Theory.

If we hold the doctrine of biological recapitulation at all, we must, I think, connect the spontaneous activities of childhood with a preceding stage in adult work and thought.

And conversely, human play, in its resemblances to the serious activities of lower stages of human and animal life, supplies a parallel to the biological doctrine of recapitulation.

But it is one thing to hold recapitulation as an empirical law and another to declare its necessity. Whilst admitting the very great range of this doctrine in development, Prof. A. M. Marshall[1] tells us that the study of biological development discloses to us also "a series of ingenious, determined, varied, but more or less unsuccessful efforts to escape from the necessity of recapitulating, and to substitute for the ancestral process a more direct method".

Prof. Miall,[2] who is hardly a thorough-going recapitulationist, thinks "certain facts in the development of individuals have an historical significance and cannot be explained by mere adaption to present circumstances; further, that adaptions tend to be inherited at corresponding phases, both in the ontogeny and the phylogeny".

Recapitulation in biology, therefore, will not cover the whole field, but the great range of its application is admitted.

If then, we are not to suppose function entirely dissociated from structure, we should expect to find the work of one age becoming the play of the next. To take one instance. The boy who 'plays' truant is usually marked out from his fellows by "impulsiveness, lack of persistence, impatience of restraint, carelessness of person, indifference toward property, and lack of sympathy". He "stands like an outcrop of an older formation, pointing the genetic psychologist back to the probable origin of the migrating instinct".[3]

But it is not merely the truant who so strikingly illustrates a recapitulation theory; in fact, such a case is atavistic rather than normally recapitulatory.

The great support to this theory comes from facts collected over a much wider field, and from average specimens of humanity.

"Mr. J. J. Jegi, summing up the general results of the tests of some 8,000 school children in New York by J. P. Taylor, in California by Miss H. M. Willard, in Massachusetts by Will. S. Monroe, and in Milwaukee, Wisconsin, by himself, as to their 'hopes,' 'ambitions,' 'vocational interests,' etc., observes: 'In these four studies alone we have tested about 8,000 school children, and there appears to be a wonderful agreement in all of them, as well as in the many smaller groups tested, in regard to the types of occu-

[1] Address to Biological Section, British Association, 1890.
[2] Address to the Zoological Section, British Association, 1897.
[3] *The Child*, A. F. Chamberlain, p. 89.

pations that are most popular during the earlier years of school life. The trades involving a large share of "doing with the hands," "making," as carpentry, engineering, farming, etc., are most sought by the boys, and teaching, dressmaking, millinery and housekeeping by the girls.' This result, Mr. Jegi notes, cannot be due to the teaching of manual training or of sewing, for the majority of the children in question do not take either of these, even when they happen to be taught in the schools. Mr. Jegi concludes that 'certainly from the age of twelve years children are making a conscious introspection of their talents, and the teacher cannot afford to neglect this opportunity for good'. Noticeable also is predominance of 'like it' as the reason assigned for the favourite occupation, even in America money influencing less than is commonly supposed."[1]

Mr. Jegi's investigation is most valuable, though I am a little doubtful of the "conscious introspection of their talents". Is not the child's real question rather, "What do I like to do?" instead of, "What can I do?" One would hardly have supposed that many young children would be influenced by such a distant consequence as the ultimate possession of money in late adult life.

I have, moreover, taken the opportunity of questioning all the men I know whose adult work does really represent a choice of their own made at a mature age. Their youthful desires were very similar to those quoted, and much thankfulness was shown that their boyish impulses were not allowed to commit them to a career. On a recapitulation theory, I suggest that such facts as these offer no difficulty. Moreover, the conclusions arrived at in the chapters on Art and Language, together with the general psychological analysis of games and their origins, seem to receive an adequate interpretation on the Recapitulation theory. Nor is action to be overlooked; the diffused and uninhibited associated motions which are characteristic of early work recur in the unregulated spontaneities of play.

Perhaps it may be worth while to mention a very large class of activities which are on the border line of the playful and the serious, *viz.*, ceremonial observances. I think, without any analysis of particular cases, the statement will be allowed that the explanation of these is realistic, not symbolic; and that much that is quite unmeaning now had once a very real significance.

Nor should we in this connexion fail to note how imme-

[1] *The Child*, A. F. Chamberlain, p. 312.

diately, on adopting a playful attitude of body or mind, all classes of society seem to change their mental outfit. The man who in business acknowledges nothing but good evidence, talks superstition over his dinner table not wholly with disbelief. The sober, industrious student becomes a yelling yahoo. The law-abiding citizen will settle the disputes of play with his own right hand. One might almost be tempted to re-echo the cynic's utterance: "Life would be very tolerable were it not for its pleasures". And one asks: Is all spontaneity bad? Is there no spontaneous advance? Has play no function except to degrade? I propose to attempt some answer to these and similar questions in the next and final section.

XII.—Philosophy of Play—(v.) Summary and Conclusion.

So many questions of development, biological or psychological, have been raised in the preceding pages that I cannot hope to have escaped considerable error both in interpreting the conclusions of others and in advancing my own. But it sometimes saves misconception, and may be of service both to the writer and reader, to attempt some sort of summary of connected conclusions as the writer conceives them.

Pre-Darwinian biology concluded that given due liberty and sustenance, each individual would develop into a perfect being according to the law of its species.[1] And unimpeded development, spontaneity and liberty were enthroned as ethical ideals. To this group of conceptions belongs the play-preparation theory which finds such large expression in Froebel. The muddles of priest and statesman were responsible for the world's misery, spontaneous and unimpeded development of the individual would soon put things right; thus ran the correlated political doctrine in the mouth of the demagogue and revolutionist. The educational doctrine which logically belongs to this has recently filtered down to the primary schools as "new".

But with Malthus and Darwin, and particularly with the doctrine of the Origin of Species, there came a great change. Spontaneous variation was indeed the moving force, but it might occur in one direction just as much as another. The environment *selected* which should survive. Struggle for survival took the place of unimpeded development. God helps those who help themselves became the text of many edifying

[1] *Cp.* Graham Wallas, **Froebelian** Pedagogy, *Child Life*, July, 1901.

books; free-trade all round; work first, play afterwards. The surplus energy theory logically correlates with these conceptions, and their outcome educationally was the exaltation of competitive examinations, and "payment by results". Then came the dictum "Ontogeny repeats Phylogeny," the child passes through the stages which the race has passed through. Here we get a logical bifurcation, according as it is held that the child *must* pass through these stages at a certain rate, or that the child shall linger as short a time in primitive stages as possible. But, either way, such a theory requires that the spontaneous activities of childhood shall be recapitulatory.

But both these great optimisms have given way. Neither unrestricted liberty nor equality in strife commend themselves to the thought of to-day. The survival of the fittest turns out to mean the survival of those who do survive, since that is the test of fitness. Though in the long run, as the economists say, national persistence may be the best test of all, yet, applied to our present town populations, we may be pardoned for not thinking too highly of the survivors.

Moreover, limitations to biological recapitulation, physiological short-cuts and instinctive plasticity, rather than instinctive reflexiveness, are dominant notes of latter-day science.

So that the educational justification of complete recapitulation is gone, and we need not regard impulse and instinct as divine guides to which exclusive attention must be given.

But there is something on the other side. It is true, no doubt, as some recent work seems to show, that variation has a trend and is not entirely indifferent in direction, yet we lack that confidence in the inheritance of acquired characters which formed yet another strong support of mid-century optimism.

The upward movement of men on the whole, which was to diminish the sphere of government and make democracy safe, does not seem to be taking place.

Nature, not nurture, has again become the dominant partner, but Nature, no longer as a beneficent mother working wholly for good, but as a stern task-master whom we must obey that we may live; but from whom, if we study him carefully, we may snatch here and there a little victory for our own ideals.

And this view, I take it, has an exact application to the school work of to-day. Let us by all means study the spontaneities of play; no inductive work in this department can be thrown away, but to erect our empirical conclusions into pedagogical imperatives is fatal.

Spontaneities and games are neither good nor bad because they are games, and different individuals will, in their play, show traits of varying reversion to primitive types; whilst the boy of genius will often play at his life-work. I have already considered in the chapters on Language and Art to what extent we can trust the spontaneities of play for entry into the social heritage of knowledge, so far as the average pupil is concerned. "But surely play has a vital and valuable function," an objector will remark, "and you allow that the activities of savage times may be transferred to games with a gradual loss of their former emotional concomitants."

> It is excellent to have a giant's strength,
> But it is tyrannous to use it like a giant.

Well-conducted games may give us the first without the second perhaps.

"You further say," our objector continues, "that the spontaneities of play should be watched as indications of natural development, as they may be useful pedagogically, though not constituting in themselves actual preparation for the work of life. Is not play 'recreation' as well as 'recapitulation'?"

"You seem to object to play as degrading, do you wish to abolish it?"

I take it that the overwhelming importance of play lies in the value it possesses as a brake. It is a truism that civilisation demands more numerous and more rapid nervous adjustments, at least for large classes of the community. It does not seem that what we call the physical basis of mental life is properly sustained without intervals for physical recreation by activities which make little demand on the higher nervous centres. We are hardly awake to the national importance of play as recreation. But the aimless shrieking and horse-play of so many of the girls and boys in the asphalte playgrounds of our primary schools, veritably 'play' as it is in a biological and psychological sense, is just the sort of play which is degrading, is just that sort of primitive survival which I hope to see diminish. Guilds of play, school-clubs, and kindred agencies are based on the view, not that natural play is divine—most of those in close contact with the facts of human life know it is not—but that artificial play may be invented which will satisfy the desire for movement and beauty without gratifying low tastes and sentiments. And the same justification is found in belief as in action. We cannot long maintain ourselves on the heights, we descend for rest to the lower slopes, keeping, if we can, out of the valleys beneath.

A source of difficulty in this subject of play and spontaneous advance has arisen from our habit of considering man philosophically as one and indivisible. The evolution of men would in some ways be a safer title than the evolution of man. Noting the spontaneous advance of genius, and the disinterested motives, as we call them, which produce much of the world's best work, it has been too hastily assumed that we may trust to this over the whole field of labour. True enough we find spontaneity everywhere, playful and otherwise, but most of it is not like that of the genius, in front of, but behind, the times.

The problem for us, setting aside the optimistic exaggeration of "preparation" theories, and remembering the plasticity and latitude which modern 'recapitulation' theories permit, is to use 'play' as a relief from work without descending into barbarism in the process; to use 'play' as a means of maintaining the physical strength to which modern life conditions are so inimical; to use 'play' as suggestive of mental development, so that we may find the easiest lines of approach for adult work and thought; and to supersede the play which too markedly exhibits primitive action, primitive beliefs, primitive ethics.

IV.—KANT'S ANTITHESIS OF DOGMATISM AND CRITICISM.

By Arthur O. Lovejoy.

Kant's distinction between two sharply contrasted types of philosophical method, designated by the names of 'dogmatism' and 'criticism' has come to be one of the accepted rubrics in the current treatment of the history of philosophy. It is commonly supposed to correspond to actual historical differences that are both definite and important. For this celebrated antithesis not only sums up in a single phrase what Kant conceived to be the most important and distinctive feature of his own doctrine; it also, as Kant sets it forth, contains several plain implications as to matters of historical fact which concern much more than his own doctrine: implications, namely, as to the real character of the philosophical procedure of his predecessors, especially of Leibniz and Wolff; as to the measure of his own divergence from them, in his conception of the nature and scope of the ultimate criteria of truth; and as to the degree of essential novelty and originality that can be claimed for the Kantian system. In particular, the customary assumption of the validity of the antithesis has brought about that many more or less instructed persons carry about with them, as their one firmly fixed philosophical idea, the persuasion that between the method of philosophy in vogue before Kant's day, and that in vogue since, there is a great gulf fixed. I propose here to show that the antithesis in question is seriously misleading, and to point out certain misrepresentations of historic facts, certain exaggerations and certain ambiguities in Kant's way of presenting it, and certain errors in those ideas about the criteria of truth employed in metaphysical reasoning, upon which the antithesis is based. Behind this simple and popular and apparently convincing scheme for classifying historic tendencies lies a very considerable, though not uncharacteristic, confusion in Kant's thinking. He was able to make so sharp the antithesis between his own and earlier systems only because he had been

guilty of three rather singular oversights. In the first place, he had failed to hold clearly in mind what the doctrine of philosophical method held by his immediate predecessors had actually been. In the second place, he had failed to consider duly and define clearly the relation of his own doctrine to a familiar principle which has been the main and the generally accepted instrument of metaphysical reasoning, as well before his day as after it. And in the third place, he had forgotten—and most of his expositors have ever since overlooked—the fact that, of the special arguments in which he worked out his own 'critical' method, the most important and ostensibly the most 'critical'—namely, the argument about causality embodied in the Second Analogy of Experience—was merely an elaboration of an argument already employed by Kant's 'dogmatic' predecessor, Wolff, from whom he seems unconsciously to have borrowed it.[1] These considerations will, I hope, throw an appreciable, and, if that be conceivable, a somewhat new illumination upon the limitations of Kant's thought and upon its historical connexions. Now that the world, and especially the Germanic part of it, has ceased celebrating—not without a certain measure of unphilosophical *Schwärmerei*—the centenary of the worthy Koenigsberger's death, nothing, I take it, could be more fitting than that students of the history of thought should undertake a new inquest into the real originality, and the real value, of this central idea of the thinker who is credited, above all, with giving to philosophy a new and definitive method. The outcome of the inquiry will, I think, tend somewhat to qualify the conventional high estimate of Kant's importance, so far as the methodological question is concerned. Prof. William James has, in a public address, laid hands on our father Parmenides with some boldness: "I believe," he says, "that Kant bequeaths to us not one single conception which is both indispensable to philosophy and which philosophy either did not possess before him, or was not destined inevitably to acquire after him, through the growth of men's reflexion upon the hypotheses by which science interprets nature. The true line of philosophic progress lies, in short, not so much *through* Kant as *round* him, to the point where we now stand. Philosophy can perfectly well outflank him, and build herself up into an adequate fulness by prolonging more directly the older English lines." This is rather more than I care here to maintain; it is not

[1] This third point cannot be dealt with within the limits of this paper. The proof of it is offered in a forthcoming article by the present writer in the *Archiv für Geschichte der Philosophie.*

so much from Kant's positive contentions as from his negations and his unfair reflexions upon his precursors, that this paper will offer reasons for dissenting. Yet it is true, I think, that our present somewhat minute inquiry will make it evident that the tendency of Kant's influence has been to obscure or disguise the proper and the historic method of metaphysical reasoning, and to lead to the assumption of a breach of continuity in the secular working out of philosophical problems, where none really exists.

What Kant means by his antithesis is, of course, sufficiently clear. The distinction between dogmatism and criticism is represented as radical; and it has a perfectly definite technical character. A dogmatist, in the special sense, is a philosopher who deliberately goes about making synthetic judgments *a priori*, without first pausing to ask himself whether, or how, such judgments are logically possible. That is the definition of the creature; and of the motive which leads him to be such as he is, Kant gives a plain account in various passages of the *Transcendental Dialectic* and of the *Prolegomena*. The weakness in human nature which causes men to construct dogmatic systems of philosophy is the passion for completeness in the conception of things and in the explanation of their conditions, the disposition "to find for every conditioned an unconditioned and so to complete the unity of knowledge". The speculative metaphysician, in short, is the man who suffers from an uncontrolled craving for the absolute and ultimate. The reader of Kant cannot fail to derive the impression that the philosophical ambitions of earlier thinkers, and especially of the school in which Kant himself had been brought up, had been characterised by a general ignoring of limits, by a naïve assumption of the adequacy of the powers of human reason, and by a careless neglect to define the criteria of truth with either proper narrowness or proper explicitness. Kant's whole picture of the motives and the achievement of all constructive pre-Kantian metaphysicians is the picture of the motives and the achievement of an Icarus.

Now this picture is entirely in keeping with the view about metaphysics commonly held by the man in the street, and even by many natural scientists and some philosophers; but to any one who will take the trouble to understand the inner springs of the historical movement of metaphysical reflexion, it must seem an unintelligent caricature. The primary and exigent philosophic passion, as the history of philosophy displays it, is not the passion for completeness in the conception of the world of experience and of the conditions of

it, but the passion for consistency and coherency in that conception. The greater philosophers have been distinguished, not by a more insatiable lust for the synthesis of abstruse ideas, but by a superior talent for the analysis of the common ideas used in all thinking. Philosophy begins, no doubt, in the case of a Thales or any similar pioneer, with a demand for completeness and ultimateness of explanation of given facts; but—if I may repeat what I have already remarked elsewhere—philosophy once begun is kept going and endlessly changing by the continual fresh discovery of latent inconsistencies in the accepted interpretations of experience. Every man is more or less disturbed at any intimations of the presence of such inconsistencies in his body of apparently settled opinions; and the philosopher, as he is usually exemplified in history, is merely the man who is peculiarly alert to this situation, and peculiarly—and, perhaps, unnecessarily — uncomfortable at finding himself in it. Often enough, no doubt, it has been some religious or practical need that has set him to looking for the contradictions in the current opinions; but in so far as his revision of those opinions has been philosophical, the motive that shaped it has been the demand for consistency in the explication of the conceptual necessities implicit in the facts of experience. We are not called upon here, however, to review the whole history of metaphysics; and it is therefore not possible to point out in detail how, at nearly all the great steps of philosophical transition, the method, both of metaphysical criticism and of metaphysical construction, has consisted in some special application of the two logical maxims involved in the principle of contradiction, in its broader meaning: *that which, after the completest analysis of the ideas involved, implies the coinherence, in a single subject, of concepts that the mind is incapable of combining in thought, cannot be real*, and *that proposition of which the opposite is, in the sense just specified, inconceivable or self-contradictory, must be true.*

It suffices for our present purpose to recall the manifest fact that Kant's more immediate 'dogmatic' predecessors, Leibniz, Wolff and Baumgarten, so far from constructing their metaphysical edifices without first examining the foundations, had been entirely explicit in naming the criterion of *a priori* knowledge, through the use of which metaphysics was to be possible;[1] and had limited that criterion to the single

[1] In his criticism of Kant Eberhard declared that "die Leibnitzische Philosophie ebensowohl eine Vernunftkritik enthälte, wie die Kantische; denn sie gründe ihren Dogmatismus auf eine genaue Zergliederung der

principle of contradiction—or, to give it a name that better covers their full meaning, the principle of the compossibility of concepts. There had, moreover, during the period just before the appearance of the critical philosophy, been taking place a progressive clearing up of the significance and scope of this principle, and an especially determined effort to elucidate the whole question of the nature of *a priori* judgments. Since this was the case it will be of use to inquire, first, just what Leibniz and Wolff meant by the principle of contradiction, especially in its relation to the question of "the possibility of synthetic judgments *a priori*"; and, second, to ascertain precisely what Kant's own views were about the validity and the reach of that principle. We shall find the results of such an inquiry somewhat surprising.

The principle of sufficient reason is still sometimes represented as holding in the Leibnitian system an independent place, virtually co-ordinate with the principle of contradiction. But in reality Leibniz fully recognised that this principle can apodictically establish no conclusions *a priori*: and Wolff either treated it as a special case of the principle of contradiction, or else attempted to justify it by a peculiar mode of argument, of which Kant would have been obliged to recognise the legitimacy on strictly 'critical' grounds. With the exception, then, of this last-mentioned argument, which cannot be dealt with here, Leibniz and Wolff rested the whole possibility of demonstrative proof or disproof in metaphysics upon the principle of contradiction, and professed to have no metempirical theoretical knowledge save such as could be gained through the use of that principle. Wolff takes pains to point out that even the Cartesian *cogito ergo sum* is nothing more than a special case of the sort of logical necessity which the principle establishes.

What, then, did these philosophers understand by the *Grund des Widerspruches?*

We must remember, to begin with, that Leibniz—a fact of which both Mr. Bertrand Russell and M. Couturat have made much, in their recent expositions of his doctrine—liked to call all judgments analytical, contingent ones no less than necessary; this because of the familiar truth of formal logic that the connotation of the predicate of a proposition is always embraced within the connotation of the subject. As M. Couturat points out, the whole metaphysics of Leibniz

Erkenntnissvermögen". Upon this Kant remarked that, if such was the case then, indeed, "there is no dogmatism in that philosophy, in the sense in which our Kritik always employs the word" (*Reply to Eberhard*, 1te Abschn).

follows from the logical principle: "Dans toute vérité, universelle ou singulière, nécessaire ou contingente, le prédicat est contenu dans le sujet". But while Leibniz thus makes all judgments analytical in a sense, it is also true that he fully recognises a distinction corresponding to Kant's distinction between analytic and synthetic judgments. Some predicates are contained in their subjects essentially and inextricably, so that, lacking those predicates, the subject would cease to be itself, would become an inconceivability; in other words, the concept, as a whole, is made up of a complex of attributes, some one or more of which are inconceivable without the others. In other cases the inclusion of the given predicate with the several other predicates that make up the essence (or definition) of the subject is purely accidental; the several attributes do not coinhere of necessity. In the latter cases, the connexion of predicate with subject can only be known *a posteriori*; the former class constitute the field where *a priori* reasoning is legitimate, and where necessary and eternal truths are to be looked for. It is, of course, true that Leibniz called propositions of this class identical propositions, their distinguishing mark being that their opposites involved self-contradiction. But by identity Leibniz did not really intend to mean mere tautology, and by contradiction he does not always signify merely verbal contradiction. It was, indeed, difficult for him to make out how he could mean anything else; but he was, none the less, firmly persuaded that the *Grund des Widerspruches* is no empty and sterile maxim, but the fruitful source of important insights; and he especially (if not always very successfully) exerted himself to prove its positive utility. Thus he remarks (Gerhardt vii., p. 299) that though there may seem to be nothing but a *coccysmus inutilis* in identical propositions, yet *levi mutatione utilia inde axiomata nascuntur*. This, to be sure, is a somewhat *naïf* way of putting it, and the examples which follow are hardly convincing; but it all shows Leibniz's unwillingness to take his principle in its strict and narrow sense. There are, moreover, he maintains, two distinct kinds of judgment included within its range of application: (1) identical judgments, of which the opposite is formally self-contradictory, *e.g.*, A is A; (2) judgments *virtualiter identicae*, of which the opposite can be seen to involve contradiction only *per terminorum intellectum et resolutionem*—that is, only by an examination of the whole implicit connotation of the terms involved, showing that the two notions are 'incompossible'. It is chiefly these latter, or "virtually identical," judgments which constitute the substance of our demonstrative knowledge, and especially

of metaphysics. Demonstration consists in just the process of conceptual analysis whereby the implied content or meaning of two concepts is thus brought out with such definiteness as to make clear to the mind the impossibility of thinking them together, and therefore the necessity of thinking each of them and the opposite of the other together. "Virtually identical" judgments, to be sure, always bring us back *ad identicas formales sive expressas*, that is, to propositions involving two "simple" concepts, the necessary coinherence of which, in the given proposition, is manifest because the opposite of that proposition involves an explicit and literal contradiction: "Manifestum est omnes propositiones necessarias . . . ad primas veritates revocari possunt, ita ut appareat oppositum implicare contradictionem et cum identica aliqua sive prima veritate pugnare" (Gerhardt vii., p. 300).

There is still, it is true, in all this a singular inconsistency, or failure in clear thinking, on the part of Leibniz, which Mr. Bertrand Russell has already noted (*Philosophy of Leibniz*, p. 18). If the *primæ veritates* are literally "identical" propositions—A is A, B is not non-B—and if other necessary propositions are demonstrable only in so far as they are reducible (by the process of definition of the concepts involved) to such *primæ veritates*, then nothing but identical propositions can be really demonstrable at all—the principle of contradiction can never help us to prove anything more than that a thing is itself and is not anything not-itself. And again, to note another aspect of Leibniz's confusion—if all demonstration consists in definition, and if definition is the analysis of complex concepts into truly simple ones—then, once more, between these simple concepts there can be no relations except those of identity and (mere) difference, and therefore no possibility of demonstrating any synthetic truths. For it is not clear how a genuinely simple concept can contain within itself the necessity for the coinherence with itself of other and distinct concepts, or even any special or preferential repugnancies towards any particular other concepts. If the fundamental concepts were really simple in their connotative content, they would be a sort of logical atoms, or windowless monads, capable, perhaps, of entering casually and contingently into any kind of intellectual combination, but not necessitated by their own nature to enter into (or to refuse) any. And so we could discover no really instructive logical relations between distinct ideas, could find in a given subject no necessary coinherence with any predicate except its own simple and unanalysable self. And so, once more, no truly synthetic judgments *a priori* would be possible anywhere,

even in mathematics; and metaphysics, possessing no means of demonstration except the Principle of Contradiction, would indeed be condemned to perpetual sterility.

We must, then, recognise this blunder in Leibniz's treatment of the Principle of Contradiction. By describing the judgments based upon that principle as "identical"—by regarding the relation between subject and predicate in such judgments as purely analytical, and then further treating both concepts as ultimately "simple" notions—he undeniably destroys by implication the possibility of constructive metaphysics; and by his confused thinking upon the point he is, unquestionably, largely responsible for Kant's aberrations in the matter of the distinction between synthetical and analytical judgments. But on the other hand, one must repeat that Leibniz intended no such result. He fully meant his Principle of Contradiction to be a positive and constructive principle; and if he habitually employs the sort of language that I have quoted, implying that there are no necessary relations between any two distinct simple concepts except that of bare non-identity, it is also true that there is an essential and frequently reiterated point in the Leibnitian system which implies exactly the contrary. This is to be seen in Leibniz's doctrine of definition. Definition consists in forming a complex idea by the conjunction, in a single meaning, of several simple ideas—or of less complex ideas which are ultimately resolvable into simple ones. The contrary process, as we have already seen, is analysis—the taking apart of the complex which definition puts together, and so the eventual discovery of the simple conceptual elements of which it is composed. Leibniz, now, on the one hand, always insists that the analysis of a definition must bring us to such simple and indefinable concepts; but on the other hand, he constantly insists that definition is not an arbitrary process but is always (when legitimately performed) limited from the outset by the requirement that the notions united shall be "compossible," compatible with one another.[1] But these two contentions taken together are equivalent to the assertion that there may subsist, even between ultimately simple and indefinable concepts, relations of incompatibility. For if there were no such relations of ultimate incompatibility, definitions *would* be arbitrary, and any conjunction of *positive*

[1] Gerhardt iii., 443: "Les définitions ne sont point arbitraires, et on ne peut point former les idées comme l'on veut. Car il faut que ces idées qu'on prétend former soyent véritables, c'est-à-dire, possibles, et que les ingrédiens qu'on y met soyent compatibles entre eux." So frequently elsewhere.

simple concepts into a single notion would be possible and legitimate. In such a case, though you would not be entitled to say that a triangle is a non-triangle, there would be nothing to prevent your saying that a triangle is a parallelogram. For if some one urged that a triangle is definable as a three-sided figure while a parallelogram has four sides, and that three-sidedness and four-sidedness are incompatible, one would have to ask: How, unless "simple" concepts have relations of fixed incompatibility *inter se*, can I know that what has three sides cannot have four sides? It could not be merely because the two concepts *are* two, *i.e.*, merely distinct; for three-sidedness and whiteness are also distinct, yet no objection arises when I define a figure as a white triangle. If there are incompatibilities anywhere in definitions, they must inhere in the original elements, the primary concepts, of which the definition is made up; and if there were, contrariwise, no such original incompatibilities—self-evident, not capable of being demonstrated by further definition, and not to be confused with mere non-identity—everything under heaven in the way of a definition would be permissible. In asserting, then, that definitions are not arbitrary, Leibniz plainly points to the affirmation of ultimate repugnancies to coinherence between distinct and positive concepts; and thus to the affirmation that *synthetic* relations of incompossibility, on the one hand, of necessary coexistence, on the other—are to be found, in some cases, between the ultimate and irreducible ideas upon which our thinking finally depends.[1]

As regards Leibniz, then, we must sum up the case thus: He sought to give definiteness and self-evidence to the method to be used in philosophical construction, by reducing the grounds of all *a priori* reasoning to a single principle. But in his treatment of this principle he fell into a twofold and inconsistent doctrine. On the one hand, in the pursuit of extreme rigour and simplicity in the definition of his ultimate criterion of truth, he tended to reduce it to the useless and trivial principle of the mere self-identity of concepts. But on the other hand, in another part of his imperfectly concatenated system, he plainly implied that there exist synthetic relations of compatibility and incompatibility between several distinct concepts, and that by the elucidation of these relations, important and significant truths *a priori* may be discovered. And in the form of this open choice between

[1] This point has already been clearly set forth by Mr. Russell (*Philosophy of Leibniz, loc. cit.*).

unharmonisable alternatives Leibniz left the problem of metaphysical method to his successors.

What has rarely been remarked is that those successors—the immediate predecessors of Kant—took up the problem and gave a reasonably clear answer to it; that to the fundamental Leibnitian principle they gave an enlarged but an explicitly defined meaning, corresponding to the second and sounder of the alternatives suggested by Leibniz; that between this enlarged meaning and the narrower one from which Leibniz had not fully distinguished it, they drew an unequivocal distinction, corresponding to Kant's distinction between synthetic and analytic judgments; that they thus answered in advance Kant's question: "How are synthetic judgments *a priori* possible?"—and answered it in a sense to which Kant could not consistently have made objection.

It was, of course, Wolff who accomplished this advance upon the position of Leibniz; Baumgarten, and Kant's contemporary and critic, Eberhard, did little more than rearrange or expand Wolff's ideas. What Wolff did was, in the first place, distinctly to abandon the theory that the only thing that you can logically discover *a priori* about any concept is that it must always mean whatever it happens to mean. On the contrary, he remarks in an instructive passage of the *Horæ Subsecivæ* (1730, vol. i, p. 154), we ought to recognise that there are such things as *notiones fœcundæ*—"pregnant concepts"—of which the peculiarity is that they contain *determinationes rei, per quas cetera quæ rei conveniunt, colligi possunt;* in other words, they are such that *ex iis, quæ in iisdem continentur, certa ratiocinandi lege colliguntur alia quæ in iisdem non continentur.* It is because it is a fact of psychology that there are such pregnant notions, that we are able to frame a number of propositions *quarum prædicatis positis, ponuntur alia ejusdem rei prædicata.* Here, then, we find Wolff asserting that some ideas contain within themselves—inseparable from, yet not expressed in, their formally defined essence—necessary implications as to their relations of copredicability or incompatibility with other ideas; and that meanings are thus organically interconnected.

Now in the technical logical and metaphysical treatises of Wolff and his school, the theory here implied as to the grounds of the legitimacy of synthetic judgments *a priori* is set forth with great fulness and definiteness—and copious iteration. In summarising the doctrine I shall quote in part from the *Acroasis Logica* of Baumgarten, which, while following Wolff's expressions without significant deviation, is sometimes more concise and compact. Logic, says Baumgarten,

taken in the strictest sense, is precisely the science which shows how knowledge *a priori* is to be had (*scientia cognoscendi a priori*). Now "whatever is known *a priori* is known *ex* internis *veritatis characteribus*"; by this is meant, in modern language, that the presence of *a priori* knowledge is to be verified essentially by a *psychological* fact, namely, the actual inability of the mind to divorce certain predicates from one another. There are two kinds of universal judgment, and only two, which are characterised by this inward compulsiveness or necessity. Whereas in all other judgments predication is justified only *a posteriori*, since the subject is, as such, found to be thinkable as a single coherent notion without the implication of the given predicate—in these two cases predication is necessary, and therefore valid universally and *a priori*, for the reason that the denial of the predicate carries with it for the mind the disappearance of the subject as a consistently definable and thinkable notion.[1] These two sorts of judgment *a priori* are distinguished from one another with respect to the manner in which the inseparability of predicate from subject is grounded. The first class is that of identical propositions, in which the predicate is merely the whole (*essentia*) or a part (*essentiale*) of the attributes included in the definition of the subject. Such propositions are, evidently enough, axiomatic, that is to say, necessary yet indemonstrable truths; but they are purely tautological and add nothing to our knowledge. The second class of axioms is the one which is made possible by the existence of *notiones fœcundæ*, and yields us, therefore, pregnant and instructive truths. Its logical character consists in this, that the predicate in such propositions is a "property" (*attributum, Eigenschaft*) of the subject. Whereas in the merely identical proposition, or definition, the several predicates are merely *put* together by the mind to make the chosen meaning, and do not co-determine the presence of one another, two "properties," on the other hand, *stick* together as inseparable "*joint-determinations*" of any subject into the definition of which either of them is introduced—even though the framer of the definition may have meant to admit only one of them into his proposed meaning.[2] The test of a "property," once more, lies in the

[1] "Notæ entis sunt vel necessariæ et immutabiles, quibus sublatis tolleretur ens; vel contingentes et mutabiles, quæ possunt adesse et abesse salvo ente. Ad priores essentia, essentialia et attributa pertinent." From *Acroasis Logica* in Toellner's edition (1773), § 171. The preceding citations are from other sections of the same.

[2] Wolff, *Philosophia rationalis sive Logica*, 1728, §§ 64, 65: "Ea quæ constanter enti cuidam insunt, quorum tamen unum per alterum non determinatur essentialia appello. . . . Ea quæ constanter insunt, sed per essentialia simul determinantur, attributa dico."

subjective necessity of thinking the predicates together; no other test can be either had or imagined.[1]

Wolff, then, on the basis of this distinction between judgments *a priori per essentialia* and judgments *per attributa*, adds to the enumeration of the axioms (underlying mathematics and metaphysics) that are purely identical, another class, not clearly recognised by Leibniz of a 'pregnant' or synthetical character. "Si definitum sumitur ut subjectum, et de eo prædicatur quidpiam, quod notis ad definitionem spectantibus, in ejus notione animo præsente, indivulso nexu cohæret: propositio axioma est" (*Philosophia rationalis sive logica*, § 273).

In view of all this we may well ask, as Eberhard asked, to Kant's great irritation, shortly after the promulgation of the critical philosophy: How can one say that the so-called 'dogmatists' neglected to undertake a preliminary *Vernunftkritik*, or neglected to distinguish between analytic and synthetic judgments *a priori*, or neglected to show the logical justification of judgments of the latter sort? And if one accepts the principle upon which this last-mentioned justification rests, how is one entitled to reproach those who professed to found their metaphysics upon no other principle, for uncritical dogmatists?

These questions bring us to the essential issue upon the settlement of which must depend one's estimate of Kant's genuine originality and historic importance as an epistemologist. Metaphysical methodology had culminated just before his time in an explicit limitation of all *a priori* philosophising within the range where the testing of propositions by the principle of contradiction,[2] in an enlarged sense, is possible, and in an equally explicit indication of just what that enlarged sense was to mean. It is, therefore, impossible for any one

[1] Wolff puts it thus in his German logical treatise: "Wenn nun zwei Gedanken so beschaffen sind, dass der andere notwendig statt findet, wenn man den ersten heget, oder dass ich mir das andere notwendig gedenken muss, wenn ich von einem Dinge das erste gedenke, indem nämlich durch das erstere das andere *mit determiniret* wird; so stimmen die Gedanken mit einander überein. Kann ich aber das andere von einem Dinge unmöglich gedenken, wenn ich mir das erste von ihm gedenke: so streiten meine Gedanken wider einander, oder einer widerspricht dem andern" (*Vernünftige Gedanken von den Kräften des menschlichen Verstandes*, 6te Aufl., 1731).

[2] I refer both forms of the *a priori* judgment, in the Wolffian classification, to the principle of contradiction, although the phraseology of different members of the school appears to be inconsistent upon this point. Eberhard, for example, prefers to label judgments *a priori per attributa* as examples of the "principle of sufficient reason". The question, however, is merely one of nomenclature; and Wolff himself certainly appears to me to intend the subsumption of both forms of *a priori* reasoning under the principle of contradiction.

to judge Kant intelligently, or to know where he stands historically, who has not determined the precise attitude which Kant took towards this Wolffian theory of knowledge. There are three possible positions which Kant might have assumed, in order to maintain, in some fashion, his charge of 'dogmatism' against his forerunners; and it is essential to determine which of the three he adopted—or whether he wavered between two or more of them. He might, in the first place, have held that the principle of contradiction, even in its narrowest Leibnitian sense, is not applicable to reality as such, but only to the phenomena of experience; in this case the contrast between the 'dogmatic' systems and the Kantian criticism would undeniably be radical. Kant might, again, have held that the principle is valid *a priori* for all Being, noumenal as well as phenomenal, but only in so far as it is purely analytical; that judgments based, not upon formal tautology or formal contradiction, but upon relations of coinherence or incompatibility between distinct and positive ideas are (as Wolff's language had suggested) synthetical; and that as synthetical, such judgments can have no *a priori* validity for *either* phenomena or noumena. In this case, also, he would have presented a fairly definite and significant, though somewhat paradoxical, antagonism to the method of Wolff and his school. Or, finally, Kant might have held that the principle is, in its fullest sense, valid *a priori;* that a judgment based upon the discovery of implicit incompatibilities between the subject and predicate of the contrary proposition, no less than one based upon explicit and verbal inconsistencies between them, is legitimate, and applicable to reality *überhaupt;* but that certain of the special conclusions concerning God, the soul, etc., which his predecessors had sought to justify by appealing to the principle, are not really inferrible by means of it. In this last case Kant could not properly have charged his predecessors with a radical error of method; he could fairly have charged them only with errors of formal logic, in the application of a valid method to certain special problems. And he could not in consistency have maintained that an *a priori* science of metaphysics is impossible; for he would virtually have admitted that metaphysical conclusions are possible wherever the principle of contradiction can be carried—wherever incompatibilities or necessary implications between ultimate concepts can be made out. Such are the issues, in the interpretation and criticism of Kant, which depend upon our answer to the question: Which of these three positions did he actually assume?

Laas has already raised the inquiry whether Kant regarded the principle of contradiction in general as a valid criterion of the nature of reality *an sich*; and he has justly insisted that the point is one of capital importance.[1] "Upon a philosopher," Laas observes, "who places between our world of time and space and the world of reality as such a chasm so wide and deep that for the latter the most conflicting possibilities remain open, it is decidedly incumbent to give a definite answer to such questions as these: Is the formula (of the impossibility of the self-contradictory) valid 'only in relation to a sensuous perception'? Is its extension to things in themselves inadmissible? Does it apply only to phenomenal existence? For who would venture to declare that there are other forms of being besides those known to us, and then deduce from the mere concept of Being the conclusion that all Being must be free from self-contradiction?" Important these questions certainly are; but there can be no doubt about Kant's answer to them. His declaration on the subject is precisely the declaration of which Laas speaks. In both the earlier and the later period of his thinking, Kant adheres consistently to the view that an object in which self-contradictory predicates are said to be united is not truly an object of thought at all, but a mere *nihil negativum irrepræsentabile*. In his earliest philosophical writing, the *Dilucidatio Nova*, Kant, in criticising the customary Wolffian way of formulating the principle of contradiction expresses only the more clearly his recognition of the importance of that principle in metaphysics. Under the name of a single formula, he maintains, philosophers have really been making use of two distinct principles, namely, *impossibile est idem esse ac non esse* and *cujuscumque oppositum est falsum, illud est verum*. These two are not, Kant thought, reducible to one another; but they are equally and independently valid. As an instrument of philosophical proof the latter is the more important. In the essay on the *Idea of Negative Magnitude* Kant declares that the self-contradictory is *gar nichts*; and in the paper on "The Only Possible Ground for a Demonstration of the Existence of God" he writes: "All that is self-contradictory is inherently impossible. . . . This logical repugnancy I call the formal character of inconceivability (*Undenklichkeit*) or impossibility." Similar expressions are abundant in the writings of the so-called critical period; *e.g.*, from the *Reply to Eberhard*: "whatever does not agree with this principle (of contradiction) is

[1] *Kant's Analogien der Erfahrung*, p. 33.

obviously nothing at all; for it is not even an idea (*Gedanke*)," and from the *Progress of Metaphysics*: "anything of which the idea is unthinkable, *i.e.*, anything of which the concept contradicts itself, is an impossibility". The passage in the *Kr. d. r. V.* (first ed., p. 150) should be familiar: "Whatever the object of our knowledge may be, and whatever the relation between our knowledge and its object, it must always be subject to that universal, though merely negative, condition of all our judgments, that they do not contradict themselves. . . . The Principle of Contradiction is a general though negative criterion of all truth. . . . No cognition can run counter to that principle without destroying itself."

Kant's general recognition of the *a priori* validity and importance of the principle of contradiction as an absolute criterion of the nature of reality is thus unmistakable. Did he, however, accept the principle in one of those modified and restricted senses which I have indicated as open to him?

The answer must be that Kant's attempts, in the writings of the critical period, to tell what he takes the principle of contradiction to mean, are characterised, not only by a curious vagueness and confusion of ideas, but also by a persistent ignoring of just that distinction between the two kinds of judgment *a priori* which Wolff and Baumgarten had made so essential. One point, indeed, is clear: Kant always speaks of judgments resulting from the principle of contradiction as purely "analytical". This, however, does not settle much more than a question of nomenclature; the usage of Wolff's own disciples was not well settled upon this point. The important thing is not so much to determine whether the relation of predicate to subject in judgments *per attributa* can best be called analytical or synthetical —there are intelligible reasons for calling it either—but whether such judgments are legitimate at all, and what their logical nature is. And here Kant writes as if he had read nothing in German philosophy since Leibniz—and only a part of Leibniz.

For, in the largest class of passages on the subject, Kant goes on as if nobody had ever suggested the possibility of finding in judgments *per impossibilitatem contrarii* anything more than the *coccysmus inutilis* which even Leibniz had declared that they were not. In "analytical judgments," we are told, the connexion of predicate with subject *durch Identität gedacht wird*; and hence "our knowledge is in no way extended by them," their only service being "to put the concepts that I already possess into better order, and to

make them more intelligible to myself" (*Kr. d. r. V.*, first ed., pp. 7, 8). In the *Prolegomena* Kant goes so far as to say that the notion which serves as the predicate of such a judgment is actually always expressly present to the mind when the subject is thought; the judgment "expresses nothing in the predicate but what has already been *wirklich gedacht* (though not *ausdrücklich gesagt*) in the subject". Leibniz, in his narrowest definitions, would have avoided such language; for he at least placed judgments *virtualiter identicae* side by side with the purely tautological ones. And occasionally Kant himself remembers that concepts sometimes implicitly involve more than one happens, at any given moment, consciously to think in them. He then adds that the predicate of an analytical judgment may be contained in the subject "in a confused manner," or "without full consciousness". What this vague qualification precisely means Kant does not further explain. It apparently refers, not to the implicit interconnexion of "properties" in the connotation of an idea, but merely to the fact that people sometimes forget just what some of the *essentialia* are that they are accustomed to signify by a term. The qualification cannot, therefore, be construed as equivalent to the admission of the distinctness and the legitimacy of *a priori* judgments *per attributa*.

So far, then, and considering only Kant's principal writings, we must say, not that Kant rejects the position of the 'dogmatists,' but that he neglects to face or to oppose it at all. With a degree of obtuseness rare in history, he entirely failed to apprehend the distinction that had been the principal result of the previous half-century of reflexion upon the criteria of truth in mathematics and metaphysics—the distinction, namely, between *a priori* judgments *per essentialia* and *a priori* judgments *per attributa*—even though this distinction contained an answer to just the question which he himself declared to be the fundamental one in all philosophy. His attacks upon his predecessors implied that, having no criterion of truth *a priori* save the principle of contradiction in its narrowest analytical sense, they proceeded none the less (in their ignorance of Hume) to construct an *a priori* system of metaphysics. But since the criterion which they used was quite other, and since their reasons for accepting it had been carefully explained, Kant cannot be said to have brought any pertinent criticism to bear upon their position at all. The longer treatises nowhere make it certain that, if Kant had grasped the Wolffian distinction, he would not have accepted the Wolffian method.

Fortunately, however, Kant was reminded of this dis-

tinction by one of his contemporary critics; and in his reply to that criticism we find him at last brought to face the real issue. Eberhard's *Philosophisches Magazin*, during the brief period of its issue (1789-90), was devoted chiefly to proving that Kant had not rendered Leibniz and Wolff obsolete, and that he even did not depart so widely from their doctrines as he appeared to suppose. It was in the execution of this task that Eberhard pointed out those obvious facts to which the present paper has again called attention. Long before Kant's *Kritik*, Eberhard insisted, a distinction equivalent to that between analytical and synthetical judgments had been familiar in the Wolffian school. "Analytical judgments are those whose predicates express the essence, or a part of the essence, of the subject (*das Wesen, oder einige von den wesentlichen Stücke, des Subjekts*); those of which the predicates express qualities that do not belong to the essence are synthetic." Now synthetic judgments are valid *a priori* when (and only when) "their predicates are 'properties' (*attributa*) of the subject, that is, determinations which do not belong to the essence of the subject, yet have their sufficient ground in that essence". When, now, this and much more of a similar sort had been publicly pointed out, it was manifestly incumbent upon Kant to define plainly his position with respect to the central epistemological doctrine of the Wolffians, which he had previously ignored.

Plain and unequivocal his answer[1] is not; yet in the end it amounts to an abandonment of his case against the 'dogmatists'. Here was Kant's opportunity, if he really wished to set his theory of *a priori* knowledge in sharp contrast with that of the older school, to say, in so many words: 'I deny that the principle of contradiction is susceptible of the extension which Wolff has given to it; I do not recognise the existence of any such necessary relations of coinherence between distinct concepts, going beyond the purely formal necessity that a concept shall be identical with itself'. But so far from doing anything of the sort, Kant readily accepts Eberhard's (that is, Wolff's and Baumgarten's) distinction between *essentialia* and *attributa*, and acknowledges that the latter are no less necessarily, though they are less directly, connected with their subjects, than are the former. In repeat-

[1] *Ueber eine neue Entdeckung, nach der alle Kritik der reinen Vernunft entbehrlich werden soll* (1790). To any who wish to understand Kant's relation to earlier logic and metaphysics, and so to determine his place in the history of those sciences, this *Reply to Eberhard* is one of the most important of his writings—for reasons that are made apparent in the text. It is, however, full of flounderings and self-contradictions.

ing and making his own Eberhard's classification of the ways in which predicates may be related to subjects *a priori* Kant even proposes an emendation of the technical phraseology, which has the effect of bringing out all the more clearly the principle that, in *attributa*, we have predicates which do not belong to the definition of a concept, and yet cannot be negated of it without destroying its logical possibility. The passage runs as follows: "A predicate which is ascribed to any subject by an *a priori* judgment is thereby declared necessarily to belong to that subject, or to be inseparable from it. Such predicates are said to belong to the essence, or the inner possibility, of the concept (*ad internam possibilitatem pertinentia*). Consequently all propositions that profess *a priori* validity must have predicates of this character. All other predicates (those, namely, which are separable from the concept without destroying it) are called extra-essential marks of the subject (*ausserwesentliche Merkmale, extraessentialia*). Now predicates of the first sort may belong to the essence in two ways, either as constitutive elements of it (*Bestandstücke, constitutiva*), or as consequences of the essence that have in it their sufficient ground (*ut rationata*). The former are called essential elements (*wesentliche Stücke, essentialia*), and, as such, *contain no predicate that could be deduced from any other predicate contained in the same concept;* and in their totality *they make up the logical essence. The latter are called properties* (*Eigenschaften, attributa*)." Kant, then, here grants that there may be predicates, technically to be named *attributa rationata*, which form no part of the *essentialia* of a concept, as it is defined, but yet are indispensable to the *interna possibilitas* of it. This is merely another way of saying—which is the substance of the Wolffian theory—that not only tautological judgments but also judgments *per attributa*, are legitimate sources of *a priori* knowledge. And the whole realm of metaphysics, according to Wolff and (in his real intention) according to Leibniz, lay within the limits of this last-mentioned class of judgments, the possibility, validity and potential fruitfulness of which Kant now admits.[1]

[1] Paulsen has summarised this rather important part of the *Reply to Eberhard* in a footnote in his volume on Kant in the *Klassiker der Philosophie* (translation of Creighton and Lefevre, p. 143). Since the book is widely read, it is perhaps worth while to point out that here, as in several other instances, Paulsen goes somewhat seriously astray in his exposition. For he represents Kant as classifying predicables of the sort called *attributa* or *rationata*, among the "*extraessentialia*, which can be separated from the concept without affecting its nature". But Kant plainly and repeatedly classifies *attributa* as one of the two kinds of predicates that are *ad internam possibilitatem pertinentia*, inseparable from

Kant, however, neither fully grasps nor long remembers the significance and bearings of his own admissions; and he attempts, furthermore, to save the originality of his doctrine by insisting upon two additional points in regard to these "judgments in which the predicates are inseparably connected with the subject, though not a part of its logical essence". To these two points the whole distinction between the 'dogmatic' and the 'critical' method now reduces itself.

(i) In the first place, Kant contends, Eberhard was wrong in regarding all judgments *per attributa* as synthetical. They may, he urges, be analytical; the distinction between 'analytic' and 'synthetic' runs, so to say, crosswise through them. Eberhard had supposed that any *a priori* judgment of which the predicate is an *attributum*—expressing, in Kant's words, something necessarily belonging to the subject, "yet only as a *rationatum* of the essence, not the essence itself nor any part of it"—is *ipso facto* shown to be synthetical in character. But in reality, Kant declares, "this shows nothing more than that the predicate (mediately, it is true, yet still as a consequence of the principle of contradiction) is drawn out from (*hergeleitet aus*) the concept of the subject; so that the proposition, notwithstanding the fact that it expresses an *attributum*, may still be analytic, and therefore lacks the distinguishing mark of a synthetical proposition". In thus arguing that some judgments of this sort are analytical, and are authorised by nothing less than the principle of contradiction, Kant commits himself to a still more thoroughgoing admission. He succeeds, indeed, in establishing a point of verbal opposition to Eberhard; but he at the same time gives up all grounds of real opposition to the substance of the Wolffian theory of *a priori* knowledge. For it now turns out that judgments in which, by virtue of some necessary connexion between the concepts, predicates (as Kant elsewhere puts it) are "developed out of" (*entwickelt aus*) the subject may be analytical, and have the sanction of "the highest principle of all analytical judgments". But there is, as we have seen, nothing that Kant asserts more emphatically and more unequivocally than that all analytical judgments, involving the principle of contradiction, are valid *a*

the concept (*vom Begriffe unabtrennlich*), and capable of being deduced from the essence of the concept as a necessary consequence thereof. Paulsen's error, however, is doubtless chiefly due to a characteristic awkwardness in Kant's own use of these technical terms. As Kant employs it, the term *essentialia* is not, as one would expect, the antonym to *extra-essentialia*, and the equivalent of *ad essentiam pertinentia*; but is merely a species under the latter genus, the other species consisting of *attributa*.

priori of all possible reality, and in need of no further justification or explanation. Kant, in short, for once abandons (though only to resume it on the next page) his usual language about analytical propositions; and includes within their range some judgments *per attributa*, which include distinctly more than need be *wirklich gedacht* in the original conception of their subject. As for the mere question of phraseology, we need not further discuss whether Kant or Eberhard is right. Eberhard had sensibly remarked—what Kant could never be brought to recognise—that "the controversy as to whether a proposition is analytical or synthetical is a controversy of no importance for the determination of the logical truth of the proposition".[1] What is important is the determination of the question whether or not there really subsists between two given concepts, not defined as identical in essence, such a relation that, if the first is negated of the second, the latter becomes unthinkable within the terms of its *own* essence. When this is admitted—and Kant now admits that such a relation is possible—the rest is merely a dispute as to the sort of metaphor which may most felicitously express this logical fact.

(2) Thus far Kant has committed himself to the admissions (*a*) that some propositions in which the predicates are *attributa rationata* of the subject, are analytical; (*b*) that all analytical propositions are true *a priori* of reality in general. He further urges, however, that some propositions containing *attributa* as predicates are synthetical; and he insists that none of his precursors had shown—as he had done—how, in this case, such propositions can be known to be valid. Here Kant evidently has in mind the theorems of mathematics. These, he was sure, could only be called synthetical propositions; and if synthetical, they required some justification other than what Baumgarten would have called "the internal marks of truth," their actual coinherence in the mind. This justification Kant believed that he alone had discovered, in his celebrated doctrine of the *a priori* percepts. The reason why synthetical judgments are possible *a priori* is that they are mediated through a *reine Anschauung*. Here is where Kant finally endeavours to come to a really significant issue with his critic; and it is desirable to hear his own words, which, in part, are not susceptible of adequate translation: "Wenn gesagt wird, dass ich sie über die gegebenen Begriffe hinaus, auch ohne Erfahrung, vermehren, d. i. *a priori* synthetisch urteilen könne, und man setzte hinzu,

[1] *Philosophisches Magazin*, 1789, p. 331.

dass hierzu notwendig etwas mehr erfordert werde, als diese Begriffe zu haben, es gehöre noch ein Grund dazu, um mehr, als ich in jenen schon denke, mit Wahrheit hinzutun . . . so will ich wissen, was denn das für Grund sei, der mich, ausser dem, was meinem Begriffe wesentlich eigen ist und was ich schon wusste, mit mehrerem und zwar notwendig als Attribut zu einem Dinge Gehörigen, aber doch nicht im Begriffe desselben Enthaltenen bekannt macht." [1] In so far as they are synthetic, then, we must look farther for a "ground of the possibility" of these judgments containing *attributa* as predicates. But, now, "any one may see that, in what I have already set forth as the summary result of the whole analytical part of the Kritik of the Understanding, I have therein explained, with all needful explicitness, the principle of synthetic judgments in general, namely: that they are not possible except under the condition of a perception underlying their subject—one which, when they are *a posteriori* judgments, is empirical, and when they are synthetic judgments *a priori* is a pure *a priori* percept. . . . Compare now with this the pretended principle which is presented in Eberhard's account of the nature of synthetic judgments *a priori*: 'They are judgments which affirm of the subject one of its *attributa*—that is to say, a predicate which necessarily but only derivatively (*nur als Folge*) belongs to the subject.' . . . Now one is justified in asking whether the ground for the affirmation of the predicate is to be sought for in the subject, according to the principle of contradiction—in which case the judgment would still be merely analytical; or whether the predicate is incapable of being deduced from the concept of the subject by the principle of contradiction—in which case the *attributum* is purely synthetic. Thus neither the name 'attributum,' nor the principle of sufficient reason, serves to distinguish synthetical from analytical propositions; if the former are to be affirmed *a priori*, one could say no more of them (according to this phraseology) than that their predicate is somehow or other grounded in the essence of the concept of the subject—and is therefore a 'property'—but not simply in consequence of the principle of contradiction. But how, as a synthetic property, this predicate comes to be bound up with the concept of the subject—when it cannot be *drawn out* of the subject by analysis—cannot be explained by the concept of a 'property,' so that Herr Eberhard's account of the matter is wholly barren. But the *Kritik* clearly sets

[1] Kant appears to have forgotten that, a few pages earlier, he had explained to us how predicates not contained in the essence may, by the principle of contradiction, be 'developed out' of a concept analytically.

forth this ground of the possibility of such propositions, showing that it can be nothing but the pure percept underlying the concept of the subject. Only in such a pure percept is it possible to connect a synthetic predicate with a concept *a priori*."

Thus the theory of the *reine Anschauung* constitutes the last trench into which Kant retires to defend his antithesis of dogmatism and criticism. About this theory three things may be said, of which only the two last are indispensable to our present inquiry. First, the whole idea of a 'pure' percept, which we are under no conditions to be allowed to think as a concept, and which gets some peculiar demonstrative efficacy from its perceptual character—is a logical chimera that belongs with the other hybrid monsters of antiquity. But this is unimportant. Second, and what is more to the point, the theory, though it were true, is, by Kant's own showing, not essential to the proof of the logical validity of the *a priori* judgments in question; and it is therefore irrelevant to the issue. Wolff and Baumgarten had, in effect, declared that, when you have analysed your concepts to the uttermost and still find that two of them, not defined as possessing the same essence, coinhere *individuo nexu*, you have reached the ultimate point of verification; beyond this *de facto* psychological necessity, this "internal mark of truth," it is both needless and impossible to go.[1] Now even if it be a fact that a *reine Anschauung* 'underlies' our mathematical judgments, a knowledge of this fact is not necessary in order to establish the truth of those propositions *a priori* (in so far as they *are* true *a priori*); nor does ignorance of the fact subtract anything from the evidence of their truth. The fact would be an interesting piece of psychological information; but the truth of the propositions, as propositions *a priori*, would still require to be tested by inquiring whether, when the meaning of the concepts involved, *as concepts*, is fully understood, the contraries of the propositions prove to be inconceivable. All of which is admirably illustrated by Kant's own procedure when, in the *Kritik*, he

[1] This must not be understood as implying that there is anything in common between the Wolffian theory of knowledge and the uncritical affirmation of anything of which one has "clear and distinct ideas," or a strong "emotion of conviction". The prior analysis of concepts is presupposed, the careful framing of definitions, the clear discrimination of the several sorts of predicables, and the testing of *attributa* by the attempt to think the given definition with the given *attributum* negated. But the Wolffian logicians had rightly maintained that the touchstone in this final test can be nothing but the ultimate and inexplicable mental fact that the proposed negation is actually unthinkable.

undertakes to prove that Space and Time *are* pure percepts underlying the concepts of mathematics. He does it by showing that in mathematical judgments the predicates are "necessarily and universally" connected with the subjects *a priori*, and yet are not discoverable by a mere analysis of the definitions of the subjects. Geometry, for example, "is a science which determines the properties of Space synthetically and yet *a priori*. What, then, must the idea of Space be, in order that such a knowledge of it should be possible? It must, primarily, be a perception; for out of a mere concept no propositions can be drawn which go beyond the concept itself[1]—as do the propositions of geometry. But this perception must be found in us *a priori*, and hence, must be a pure, non-empirical perception. For geometrical propositions are all apodictic, that is, they involve the consciousness of their own necessity; and such propositions cannot be empirical" (second ed., p. 41). Evidently, however, since the supposed fact that Space is a *reine Anschauung* is inferred from the fact that geometrical theorems are necessary *a priori*, the necessity and apriority of those theorems cannot in turn depend upon a proof that Space is a *reine Anschauung*. Kant here, in a word, not only accepts the logical method of the 'dogmatists,' but even uses it to establish that principle which, so far as mathematical reasonings are concerned, is in the same sentence supposed to show the illegitimacy of their logical method. His own language exhibits better than any commentary how irrelevant is the doctrine of the pure percepts to the epistemological questions concerning the criteria of *a priori* knowledge, which are the only questions at issue between himself and the Wolffians. And now, in the third place, the theory that judgments *a priori* presuppose a pure percept, refers only to mathematical judgments; and it therefore does not affect Kant's admission, already noted, that there may be valid *a priori* judgments of which the predicates are (like those in mathematics) *attributa rationata*, but which —being sufficiently explained by the principle of contradiction—do not require the mediation of any such pure percept.

Only one point more needs to be touched upon. It may be urged, in Kant's behalf, that he at least is distinguished from his predecessors—and is more 'critical' than they—in that he limits the scope even of our valid *a priori* judgments to "objects of possible experience," and professes no knowledge of the transcendent. Upon this much might be said, if

[1] Note again that this is inconsistent with the admissions which Kant makes in the *Reply to Eberhard*.

space permitted; but I must limit myself to two remarks. One is that, in Kant's own eyes, it is not upon this consideration that his distinction of 'criticism' from 'dogmatism' turns, but upon the question how, even within the narrower range, non-identical judgments may be justified *a priori*. The other remark is that Kant himself, as we have already seen, affirmed that no reality whatever "can possess the formal character of *Undenklichkeit*," that is, can correspond to a logically 'impossible' and self-contradictory concept. And inasmuch as he at first fails to deny, and in the end somewhat confusedly admits, that other predicates besides those contained in the definition of a concept may be involved in its *interna possibilitas*, and that other propositions besides tautological ones may be tested by the criterion of the inconceivability of their opposites—it must be said that, even on this point, Kant did not successfully differentiate his position from that of Leibniz and of Wolff.

And thus the whole distinction between 'criticism' and 'dogmatism'—in so far as it is intended to correspond to an historical contrast between Kant and his German predecessors—falls to the ground. The 'dogmatists' were not, in Kant's sense, dogmatic; Kant, in his principal writings, did not refute or even attack their real doctrine of the grounds of the legitimacy of non-identical propositions *a priori*; when eventually compelled by Eberhard to define his attitude to that doctrine, he accepted—though evidently without quite knowing what he was about—the essential principle of it; and he was himself unable to formulate any different doctrine of the grounds of the validity of such propositions—since the theory of the *reine Anschauung*, even in the restricted field where it applies, expressly presupposes the *a priori* legitimacy of synthetic judgments in mathematics, and so cannot be regarded as the logical ground of their legitimacy. Finally, by his inability to deny the general applicability to all reality of the principle of contradiction, in its wider as well as in its more literal use, Kant undermined in advance his professedly negative and agnostic position with respect to the possibility of metaphysics as a theoretical science.

V.—DISCUSSIONS.

ARISTOTLE ON THE LAW OF CONTRADICTION AND THE BASIS OF THE SYLLOGISM.

One form of the Law of Contradiction is—*a thing cannot have opposite attributes at the same time.* To understand the nature of this truth it is necessary to define what is meant by "opposite attributes". Examples are plentiful: white—not-white; good—not-good; true—not-true; in general, A—not-A. The second of each pair is not meant to include everything in the universe except the first of the pair; for in that case the law of contradiction would not be true, since a thing can be at the same time white and not-white; for example, it may be white and hard. The negative, therefore, not-A, must be restricted in its signification to attributes within the *region* of A; thus not-white is restricted to all colours, with the exception of white; not-triangular to all figures except triangle. Within one region, therefore, the individuals constituting it are incompatible. But what constitutes a region? In the above examples, colour is one region, figure another; and the region is denoted by a general term. But it can be easily seen that while what I have called region and what is known as class notion here go by the same name,—colour or figure,—they are not identical. The origin of the class notion is, so we are told, the similarity of the individuals composing it; but this similarity can be no explanation of their incompatibility which makes them members of the same region. Thus colours are incompatible—a thing cannot be at the same time white and black; but it is not in virtue of the similarity of white and black, which causes us to subsume them under the same general term colour, that they are incompatible. Moreover, not all class notions consist of incompatibles; thus quality is a class notion, but not all qualities are incompatible.

This leads us to the question, Is it possible *a priori* to determine what attributes are incompatible? Even if we could be justified in saying that all attributes of the same sense are incompatible, the truth of the statement could only be determined by experience. But it is evident that this is not true. Quality, intensity, and pitch all belong to the sense of hearing, and yet they are compatible; colour and figure (plane) belong to the sense of sight, and yet they are not incompatible. We are therefore justified in saying that experience alone can tell us what attributes are, and

what are not, incompatible. If this be so, positive and negative may be nothing more than names of modes of consciousness found to be incompatible. If we designate the number of these incompatibles by n, and posit any one of them, A, all the other n-1 modes constitute not-A; and the whole number of n incompatibles constitutes a region. The definition of region would then be an aggregate of incompatible modes of consciousness; and it is clear that experience alone constructs these regions for us.[1] Opposite attributes, then, being positive and negative, and the latter being what experience finds to be incompatible, the law of contradiction quoted at the beginning of the paper reduces itself to the law of identity—a thing cannot have at the same time what experience finds it cannot have at the same time.

Moreover, if the above analysis be correct, it is conceivable that there might be a state of experience even if our present regions of incompatibles were dissolved. By this is not meant a chaos in which all things are and are not at the same time. All it involves is a state of thinking with the *a priori* element reduced to a minimum. If we were to construct a logic on this hypothesis, the implication of the assumption would be that the judgment A is B is to be taken at its face value, and no inference be allowed regarding not-B. Similarly the negative judgment A is not-B should be limited to its direct and explicit statement, and all *a priori* inference as to B be excluded. B and not-B, in other words, are to be treated, in accordance with this hypothesis, as B and C are in our actual logic. The psychological attitude of this hypothetical logic it is, of course, impossible for us to realise, as it is impossible to realise psychologically a fourth dimension or the meeting of parallel lines. All that can be done is to clear the ground, as it were, all around it, so that there shall at least not be any obstacles we can help in the way of approximating to the situation suggested; and this is what I have attempted so far to do.

With the idea of the judgment as bearing no implications beyond its explicit statement, we have next to consider what would become of the syllogism. Those who assert that the syllogism is based on the law of contradiction would, of course, deny that a syllogism is possible on this hypothesis. Their assertion, however, seems to me not true.

The inference of the conclusion from the premisses is based simply on the right to repeat separately a judgment regarding an object or group of objects, which was made before regarding the same *plus* others; and the law of contradiction is not at all involved in the inferential process as such. Thus in the syllogism:—

All A is B
All C is A
All C is B

[1] This seems also to be the idea of Herbert Spencer, *Principles of Psychology*, ii., 423-424.

let the following group of dots represent all A; then the major premiss predicates B of the entire number of dots in the group. The minor premiss tells us that All C is A, which means that all C is in the above group, say all those below the line. Then to say in the conclusion All C is B is to predicate of the dots below the line what was before predicated of these dots *plus* those above the line. No account was here taken of the law of contradiction. It is evident, therefore, that the syllogism would still remain, if the law of contradiction were banished from logic. To be sure, on the latter hypothesis the conclusion "All C is B" would not exclude "all C is not-B," but neither does it do this in our actual logic in virtue of the *syllogism*. It does this because the major premiss does it (the conclusion never adds to the major premiss), and the major premiss does it in virtue of the law of contradiction. The same result can be brought about without the law of contradiction by explicitly denying not-B in the major premiss; thus, "All A is B and not not-B". Then the conclusion, which does nothing more than repeat part of the major premiss, would here likewise state "All C is B and not not-B". The only difference is that that which our actual logic finds it unnecessary to state explicitly because it assumes it as true *a priori* and universally, our hypothetical logic would have to state explicitly on the strength of experience. Moreover, since the conclusion "All C is B" excludes "All C is not-B" solely by the authority of the major premiss, it is not even in the actual logic necessary to assume the law of contradiction in the minor premiss, "All C is A," for it is evident that the conclusion would still hold, if it were true also that "All C is not-A"; since the major premiss "All A is B" does not exclude not-A from being B.

Here one may urge, granting that the syllogism would survive this hypothesis, that all its usefulness would be gone. Of what use, one would say, can a syllogism be, the conclusion of which does not exclude its opposite? Does not all our action depend upon our certainty as to the exclusion of the contrary? My answer would be that the fault is not with the syllogism but with the judgment; for it is the latter that excludes or does not exclude the contrary; and the judgment as an expression of the result of experience cannot be blamed for not excluding what experience shows to be compatible, any more than the judgment in actual logic can be blamed for not giving us information upon an indefinite number of attributes which we should very much like to know. Thus "All A is B" tells us nothing about C or D or E.

The view here defended, that the syllogism does not presuppose the law of contradiction, is held by no less an authority in logic than Aristotle. In a passage in the *Posterior Analytics*, which I shall now proceed to discuss, Aristotle states the thesis and proves it; though, surprisingly enough, Waitz and his followers misunderstood its import.[1]

[1] After this paper was written I found that Maier, *Die Syllogistik des Aristoteles*, ii., pt. 2, p. 238, note 3, understands the passage as I do.

The passage in question occurs *Posterior Analytics*, i., 11, p. 77*a*, 10-22, and reads as follows:—

τὸ δὲ μὴ ἐνδέχεσθαι ἅμα φάναι καὶ ἀποφάναι οὐδεμίᾳ λαμβάνει ἀπόδειξις, ἀλλ' ἢ ἐὰν δέῃ δεῖξαι καὶ τὸ συμπέρασμα οὕτως. δείκνυται δὲ λαβοῦσι τὸ πρῶτον κατὰ τοῦ μέσου, ὅτι ἀληθές, ἀποφάναι δ' οὐκ ἀληθές. τὸ δὲ μέσον οὐδὲν διαφέρει εἶναι καὶ μὴ εἶναι λαβεῖν, ὡς δ' αὕτως καὶ τὸ τρίτον. εἰ γὰρ ἐδόθη, καθ' οὗ ἄνθρωπον ἀληθὲς εἰπεῖν, εἰ καὶ μὴ ἄνθρωπον ἀληθές, ἀλλ' εἰ μόνον ἄνθρωπον ζῷον εἶναι, μὴ ζῷον δὲ μή· ἔσται γὰρ ἀληθὲς εἰπεῖν Καλλίαν, εἰ καὶ μὴ Καλλίαν, ὅμως ζῷον, μὴ ζῷον δ' οὔ. αἴτιον δ' ὅτι τὸ πρῶτον οὐ μόνον κατὰ τοῦ μέσου λέγεται ἀλλὰ καὶ κατ' ἄλλου διὰ τὸ εἶναι ἐπὶ πλειόνων, ὥστ' οὐδ' εἰ τὸ μέσον καὶ αὐτό ἐστι καὶ μὴ αὐτό, πρὸς τὸ συμπέρασμα οὐδὲν διαφέρει. τὸ δ' ἅπαν φάναι ἢ ἀποφάναι ἢ εἰς τὸ ἀδύνατον ἀπόδειξις λαμβάνει. . . .

Waitz' commentary on the passage reads as follows (the italics are mine):—

"Principium contradictionis quod dicitur in ipsam demonstrationem non assumitur, nisi etiam in conclusione expressum esse debeat: si A de omni B prædicari verum, non prædicari non verum sit, B vero de omni C prædicetur, A de omni C prædicari verum, non prædicari non verum est: in quo quidem syllogismo *nihil interest* (vs. 14), *num A prædicetur et de B et de Non-B, B autem et de C et de Non-C.* Nam si datum est animal prædicari de omni homine (*εἰ γὰρ ἐδόθη ζῷον εἶναι τοῦτο καθ' οὗ ἄνθρωπον ἀληθές ἐστιν εἰπεῖν*, vs. 15), *etiam si verum sit animal prædicari etiam de Non-homine*, dummodo homo sit animal, non-animal vero non prædicetur de homine, eadem utique proveniet conclusio, hanc dico, hominem quendam *e.g.* Calliam esse animal. (Perspicuitatis causa hic adiecimus apodosin, qualis esse debebat, quam Aristoteles et cogitandi et scribendi alacritate abreptus non omisit quidem, sed turbavit.) Item enim, *etiam si Non-Callias homo sit*, de Callia homo prædicabitur, non-homo vero non prædicabitur. Quare etiam si A et de B prædicatur et de Non-B (*εἰ τὸ πρῶτον οὐ μόνον κατὰ τοῦ μέσου λέγεται ἀλλὰ καὶ κατ' ἄλλου*, vs. 19), *B autem et de C et de Non-C* (*εἰ τὸ μέσον καὶ αὐτό ἐστι καὶ μὴ αὐτό*, vs. 20), dummodo Non-A neque de B prædicetur neque de C, tamen conclusio eadem utique erit 'A prædicari de C'. Verum principio contradictionis (vs. 22) non uti solemus in demonstratione recta, sed in deductione ad absurdum quae dicitur. . . ."

Edward Poste,[1] no doubt following Waitz, translates the passage as follows (italics mine):—

"That of two contradictory predicates one must be false, is never expressed in demonstration, *but implied in all direct proof.* When we syllogise, we assume that the Major is truly affirmed of the Middle, and not truly denied, *without caring whether the Middle can be truly denied of the Major.* And so with respect to the Middle and Minor. For if we assume that All Man is

[1] *The Logic of Science, a Translation of the* Posterior Analytics *of Aristotle*, with notes and an introduction by Edward Poste, M.A., Oxford, 1850.

Animal, and not not-Animal, it will be true that Callias is animal, and not not-animal; *even though not-Callias be also Man, and not-man be also Animal.* For the conclusion is not impaired though the Major be incommensurate to the Middle, and the Middle incommensurate to the Minor. The principle that one or the other of two contradictories must be true, is assumed in indirect proof; . . ."

I confess I fail to see, either in Waitz or in Poste, any connexion between the first sentence and the rest of the passage. Surely Aristotle does not come to tell us at this late date, after having treated of the syllogism with the minutest detail in the *Prior Analytics*, that in the first mode of the first figure the middle term need not be co-extensive with the major, nor the minor with the middle. And assuming that he does tell us this very thing, what has that to do with the principle of contradiction? Besides, what is the import of the first sentence? According to Waitz, it means apparently that the law of contradiction is not explicitly stated as a premiss unless it is to appear explicitly also in the conclusion. One fails to see the significance of the statement. If all Aristotle means to say is that, owing to the universal certainty of this law, it need never be expressed in the premisses, being always implied, why should its explicit appearance in the conclusion make any difference?

In addition to these more general considerations it will appear, on an examination of the text, that the words will not bear the meaning Waitz puts upon them. More especially the words *τὸ δὲ μέσον οὐδὲν διαφέρει εἶναι καὶ μὴ εἶναι λαβεῖν—εἰ καὶ μὴ ἄνθρωπον ἀληθές—ὥστ' οὐδ' εἰ τὸ μέσον καὶ αὐτό ἐστι καὶ μὴ αὐτό* cannot be interpreted as Waitz interprets them in the italicised lines above. Poste entitles his translation of this section, "Syllogism depends on the Axiom of Contradiction," and in an appendix (p. 135) attempts to show by a reference to the syllogism that the axiom of contradiction and the *Dictum de omni et nullo* are the same; both of which views are, as it seems to me, the exact opposite of what Aristotle intends here, as I shall proceed to show.

In the first sentence Aristotle makes the significant statement that the syllogism as such is independent of the principle of contradiction; that therefore the conclusion does not exclude its opposite unless the major premiss does so. He then proceeds to show this in the syllogism :—

All Men are Animals
Callias is a Man
∴ Callias is an Animal,

in which the exclusion of not-animal in the major premiss is responsible for its exclusion in the conclusion, even if the principle of contradiction should not hold in the minor premiss, and in the minor term; *i.e.*, even if it were true that Callias is man and not-man (*εἰ καὶ μὴ ἄνθρωπον ἀληθές*), and that he is Callias and not-

Callias (Καλλίαν εἰ καὶ μὴ Καλλίαν), still as long as man is animal and not not-animal, it would follow that Callias is animal and not not-animal. The reason for this is, he goes on to say, that the major term is more extensive than the middle, and applies to not-man as well as to man, and the middle term is more extensive than the minor and applies to not-Callias as well as to Callias; and therefore even if Callias is both man and not-man (εἰ τὸ μέσον καὶ αὐτό ἐστι καὶ μὴ αὐτό), this does not prevent the major term animal (and not not-animal) from applying to it. Similarly even if the minor term is both Callias and not-Callias, the major term still applies to it through the middle.

I should therefore translate the passage, with more precision than elegance, as follows:—

"That it is impossible at the same time both to affirm and deny, no demonstration assumes, unless it be necessary to demonstrate the conclusion in this manner [*i.e.*, excluding the opposite]. [In the latter case] the demonstration is effected by assuming that it is true to affirm the major term of the middle, and not true to deny it. But as to the middle term, it makes no difference if we assume that it both is and is not; and similarly with the minor term. For if we grant [*sc.* in the major premiss], that that whereof it is true to predicate man (even if it be true also to predicate not-man)—as long, at any rate, as we grant that *man* is animal and not not-animal, it will be true to say that Callias (even if he be at the same time not-Callias) is still animal and not not-animal. The reason is that the major term is predicated not only of the middle but also of something else, because it is more extensive [than the middle]; and therefore even if the middle is both itself and not itself, it will make no difference to the conclusion. But that everything must be either affirmed or denied is assumed by the demonstration known as *reductio ad absurdum*. . . ."

That my interpretation of the first sentence is correct is also proved from the last sentence, which refers to the principle of excluded middle (Waitz confuses the two). That Aristotle thought of them together is shown in a number of places in the *Metaphysics* where they are mentioned together as the bases of thought. Here he tells us that, whereas the method of proof known as *reductio ad absurdum* cannot be effected unless we assume the principle of excluded middle, the direct proof does not require the principle of contradiction, unless we want the conclusion to exclude its opposite. And in the latter case, too, it is sufficient to assume the law of contradiction in the major premiss; it is not necessary even then in the minor.

This being the true meaning of Aristotle in the above passage, it is next in order to see whether the view here expressed is consonant with views held elsewhere by Aristotle. In the beginning of the *Prior Analytics* (24 *b*, 28-30) Aristotle gives a definition of the *dictum de omni et nullo* as follows:—

λέγομεν δὲ τὸ κατὰ παντὸς κατηγορεῖσθαι, ὅταν μηδὲν ᾖ λαβεῖν τῶν τοῦ ὑποκειμένου, καθ' οὗ θάτερον οὐ λεχθήσεται, καὶ τὸ μηδενὸς ὡσαύτως.

"We call that *de omni* predication, where it is not possible to take any individual denoted by the subject of which the other [*i.e.* the attribute denoted by the predicate] is not predicated; and *de nullo* predication is to be defined likewise." Farther on (25 *b* 32-40), a definition and illustration are given of the syllogism in the first figure; and the syllogism of the first mode is based directly upon the preceding definition of *de omni* predication:—

ὅταν οὖν ὅροι τρεῖς οὕτως ἔχουσι πρὸς ἀλλήλους ὥστε τὸν ἔσχατον ἐν ὅλῳ εἶναι τῷ μέσῳ καὶ τὸν μέσον ἐν ὅλῳ τῷ πρώτῳ ἢ εἶναι ἢ μὴ εἶναι, ἀνάγκη τῶν ἄκρων εἶναι συλλογισμὸν τέλειον . . . εἰ γὰρ τὸ Α κατὰ παντὸς τοῦ Β καὶ τὸ Β κατὰ παντὸς τοῦ Γ, ἀνάγκη τὸ Α κατὰ παντὸς τοῦ Γ κατηγορεῖσθαι· πρότερον γὰρ εἴρηται πῶς τὸ κατὰ παντὸς λέγομεν.

"When, therefore, three terms are so related that the minor in its whole extent is the subject of the middle taken affirmatively, and the middle in its whole extent the subject of the major taken affirmatively or negatively, there must be a perfect syllogism of the two extreme terms. . . . For if A is predicated of all B and B of all C, A must be predicated of all C, for we have defined above what is meant by *de omni* predication."

It is thus seen that Aristotle bases the syllogism upon the *dictum de omni et nullo*, which is a definition and has nothing to say about the compatibility or incompatibility of the positive and its negative. A still clearer case of Aristotle's reducing the syllogism to a definition of *de omni* and *de nullo* predication can be made out by a reference to his treatment of the syllogism in the contingent mode (32 *b* 38-33 *a* 5):—

ὅταν οὖν τὸ Α παντὶ τῷ Β ἐνδέχηται καὶ τὸ Β παντὶ τῷ Γ, συλλογισμὸς ἔσται τέλειος ὅτι τὸ Α παντὶ τῷ Γ ἐνδέχεται ὑπάρχειν. τοῦτο δὲ φανερὸν ἐκ τοῦ ὁρισμοῦ. τὸ γὰρ ἐνδέχεσθαι παντὶ ὑπάρχειν οὕτως ἐλέγομεν. ὁμοίως δὲ καὶ εἰ τὸ μὲν Α ἐνδέχεται μηδενὶ τῷ Β, τὸ δὲ Β παντὶ τῷ Γ, ὅτι τὸ Α ἐνδέχεται μηδενὶ τῷ Γ· τὸ γὰρ καθ' οὗ τὸ Β ἐνδέχεται, τὸ Α μὴ ἐνδέχεσθαι τοῦτ' ἦν τὸ μηδὲν ἀπολείπειν τῶν ὑπὸ τὸ Β ἐνδεχομένων.

"When, therefore, A may belong to all B and B to all C, there will be a perfect syllogism that A may belong to all C. This is evident from the definition. For this is what we defined *de omni* contingent predication to mean. Similarly if A may belong to no B and B to all C, it follows that A may belong to no C. For the premiss, 'A may not belong to whatever B may belong to,' has been defined to mean that nothing should be excluded which may come under B."

Similarly in the *Posterior Analytics* (73 *a* 28 *sq.*) Aristotle defines the *dictum de omni*, and as an illustration gives a syllogism (*οἷον εἰ κατὰ παντὸς ἀνθρώπου ζῷον, εἰ ἀληθὲς τόνδ' εἰπεῖν ἄνθρωπον, ἀληθὲς καὶ ζῷον . . .*).

But it would be wrong to infer from all this that Aristotle assigns no importance to the principles of contradiction and excluded middle. Quite the contrary. He devotes the entire second part of the fourth (Γ), and a few chapters of the eleventh (K) book of the *Metaphysics* to show that we cannot get along without them, and they are the basis of all *ἀπόδειξις* and *συλλογισμός*

Thus, 996 *b*, 27 *sq.*, we read *περὶ τῶν ἀποδεικτικῶν ἀρχῶν . . . λέγω δ' ἀποδεικτικὰς τὰς κοινὰς δόξας, ἐξ ὧν ἅπαντες δεικνύουσιν, οἷον ὅτι πᾶν ἀναγκαῖον ἢ φάναι ἢ ἀποφάναι, καὶ ἀδύνατον ἅμα εἶναι καὶ μὴ εἶναι. . . .*

1005 *b*, 6 *sq. . . . τοῦ φιλοσόφου . . . περὶ τῶν συλλογιστικῶν ἀρχῶν ἐστιν ἐπισκέψασθαι . . . τὸ . . . αὐτὸ ἅμα ὑπάρχειν τε καὶ μὴ ὑπάρχειν ἀδύνατον τῷ αὐτῷ καὶ κατὰ τὸ αὐτό.*

1061 *b*, 36 *sq. οὐκ ἐνδέχεται τὸ αὐτὸ καθ' ἕνα καὶ τὸν αὐτὸν χρόνον εἶναι καὶ μὴ εἶναι . . . οὐ γάρ ἐστιν ἐκ πιστοτέρας ἀρχῆς αὐτοῦ τούτου ποιήσασθαι τὸν συλλογισμόν. . . .*

Is this then inconsistent with his argument in the *Posterior Analytics?* I think we can easily reconcile them. In the *Posterior Analytics* he is dealing with the purely formal process of evolving the conclusion out of the premisses, or, more strictly speaking, out of the major premiss. In so far as we merely do this, the law of contradiction is not involved. In the *Metaphysics* he is dealing with the significant content of the judgment and the syllogism. If these are to be significant to us in our present mode of thinking, the laws in question must be present at every step.

ISAAC HUSIK.

APPEARANCES AND REALITY.—I.

THE distinction between 'reality' and appearance, between what a thing really is and what it appears to be, is fundamental to our ordinary consciousness. Hence it is natural to make use of the distinction in metaphysics, and the result is a tendency to maintain one of two theories.

According to the first theory, we know things only as they appear to us, and not as they are in themselves. In particular things are not really spatial or temporal, but only appear so to us; space and time are only the appearances of a non-spatial reality.

According to the second theory, we know only 'phenomena' or 'appearances,' certain elements within our own minds; reality proper is beyond the mind and is not known at all. This view sometimes, as in Kant, tries to treat the appearances as being objects in space and time. We know them but not the thing in itself.

These positions may be said to differ in degree of scepticism. The former allows that reality is presented to us in perception, but insists that its nature becomes distorted in the process. The latter denies that reality is presented to us at all and substitutes for it another object, *viz.*, 'appearances'. Further these positions are not always distinguished. Kant, for instance, states his view sometimes in the form 'we only know things as they appear to us,' sometimes in the form 'we only know phenomena,' and he fails to notice that the two statements are different. The truth is that the first theory is a half-way house to the second. We are forced to go from the first to the second to gain some object of which it can be said that we know in the proper sense not only *that* it is but *what* it is. But for all that the second theory is the more sceptical, because it leaves the real object wholly unknown and regards knowledge as about something else.

In both cases the result is reached by the use of the common distinction between reality and appearance. The distinction relates primarily to objects of vision, and therefore the justification of its use in the theory of knowledge requires analysis of its nature in its original application. Only such an analysis will reveal the true nature of the distinction, and consequently the legitimacy of the theory of knowledge built upon it.

It will here be contended—

(1) That it is a certain analysis of the distinction which leads to the first theory and thence to the second.

(2) That this is a mis-analysis and that the distinction really understood leads to the contrary conclusion.

We can easily trace the origin of the view that we only know things as they appear to us, by taking any case where we distinguish between 'appearance' and 'reality'. Take, for example, Plato's instance of a straight stick partly submerged in water, which, as we say, looks bent, though in reality it is straight. If some one knows nothing about refraction and confines himself to a single perception, he will assert that the stick is bent; and if he is asked why, he will answer, 'because I see it to be so'. But if afterwards he sees the stick under other conditions and has learned about refraction, he will say that the stick only looks bent and is really straight. Thus having just identified what the stick is and what it looks, he afterwards draws a distinction between them.

And this distinction presents an obvious difficulty to knowledge in general. If a thing is not necessarily what it looks, how are we to learn what it really is? A thing in the sense in question is an individual; to get at it therefore we must perceive it. But the perception, to be of value, must give us the thing as it *is*. And that it does so is implied by the original assertion 'the stick is bent, because it is seen to be so'. Seeing is believing. The subsequent assertion, however, denies this, 'the stick only looks bent, but it is not what it looks'. Perception, that is to say, does not give us the thing as it really is. The conclusion at once seems to follow that we only know things as they look or appear to us and not as they are. And from this it is but a short step to the second view that we only know 'appearances' or 'phenomena'.

To put the difficulty shortly. Access to things implies perception. Yet if perception only gives us things as they look and not as they are, access to things as they are is impossible. But perception does in fact only give us things as they look, for this is presupposed by the distinction we actually draw between what they look and what they are.

This conclusion can only be avoided by maintaining that the reality of the distinction is still compatible with the position that perception at least gives us things as they are in some qualified way; that after all there is *some* identity between what things look and what they are. And a closer analysis of the distinction vindicates this identity.

That the analysis may be as concrete as possible, it will be well to bear in mind three prominent types of case.

(1) That of refraction already mentioned.

(2) That due to the nature of perspective.

E.g. (1) Railway lines may be said though really parallel to look convergent.

(2) A horizontal building may be said to look as though it were lower in its more distant parts.

(3) That due to distance from the observer.

E.g., the moon may be said to look as large as the sun.

These types suggest that the distinction between appearance and

reality at least primarily relates to the spatial qualities of things. The only exception seems to be the case of temporal relations; we certainly say that a certain event appeared to take a long time, though it really did not.[1] Again these cases bring before us by way of contrast the existence of spheres of perception where the distinction is wholly inapplicable, *e.g.*, those of pain and sensation generally. A pain is necessarily what I feel it to be; distinction between what it is, and what I feel or perceive it as, is meaningless. Similarly a noise, in the sense of a sensation as distinct from its physical conditions, is what I hear it as. In fact it is just the absence of the distinction here that gives much of its plausibility to the view that we only know phenomena. If we once allow that our objects are states of ourselves, we seem unable to deny that at least we apprehend *them* as they are, *i.e.*, that we really *know* phenomena.

We may now proceed to the analysis. The general form of statement to be analysed is, 'a thing looks or appears so and so, though we know that it is not so in reality'. The following seem the main points:—

(1) Such a statement is in no sense about 'appearances'.

For (*a*) its subject is not the appearance or look of the thing but the thing. When I assert that the moon looks as large as the sun, I make an assertion about the moon and not about its look.

(*β*) Its predicate is always 'real,' *i.e.*, it is always of a kind appropriate to real things, as opposed to their look or appearance. Thus the stick looks *bent;* the moon looks *as large as* the sun; the railway lines look *convergent*. If we seek for a predicate suitable to 'appearances,' we naturally think of such terms as 'deceptive' and 'untrustworthy'.

Our statements then about appearances are expressed in the same terms as the reality from which we distinguish them. It at once follows—

(*a*) That statements about appearance imply that we at least know enough about reality to say that real things have certain *possible* predicates, *e.g.*, bent or convergent. To deny this is to be wholly unable to state how things look.

(*b*) That the issue involved in distinguishing appearance from reality concerns not the general character of the attributes of real things but their relation to a particular subject. The question is not, 'Is convergence or bentness the attribute of *any* real thing?' but, 'Is it an attribute of particular real things, this stick or these lines?'

It follows that the distinction between reality and appearance relates solely to the details of our knowledge and not to its general or structural character. The attributes of reality cannot belong to *γένη* different from those of appearance. Doubt about its details implies certainty as to its general character.

[1] 'Appearing' and 'looking' are treated as distinct in meaning from 'seeming'; they stand for *φαίνεσθαι* as opposed to *δοκεῖν*.

(2) Whenever we say that a thing only looks so and so, we are really questioning some immediate judgment of perception. But this presupposes that, at least in certain cases, such judgments are not to be questioned but give us things as they are. Thus the assertion that the moon looks as large as the sun implies that there is something in perception which suggests that the moon is as large; and this is only possible if, under certain circumstances, perception gives the real relative size. And under certain conditions, it does so. If objects are equally distant from the observer, perception successfully gives their relative size. If we thought that there were no circumstances under which we should perceive the real relative size, we could never assert that one object *looks* as large as another. Similarly the statement that the stick looks bent implies that, given certain physical conditions, we should see the true shape of objects. Ever in the case of perspective the same thing is true. If we really mean that the roof of a building looks converging towards the ground, we must allow that in the right position we should see it as it really is, *viz.*, horizontal. It may be objected that the necessity of foreshortening renders this impossible. But the answer is that if we admit the impossibility, we at once reconsider our original assertion and maintain that after all the roof does not look sloping.

(3) Our possession of the distinction between appearance and reality and our power of determining in particular what is appearance and what is reality presuppose that we understand how our apprehension of objects is conditioned by relation to us as observers. It is only because we know that our distance from an object affects its apparent size, that we can draw a distinction between the size it looks and the size it is. If we forget this, we can draw no distinction at all. The same knowledge is presupposed by that power to discount difference of distance which enables us to determine the real relative size of two objects. It is the same in the case of refraction. To be able to say that a stick looks bent, we must be aware that our perception is somehow physically conditioned, and we can only determine its real shape if we know the special nature of the physical conditions. Similarly it is because we understand the conditions of perspective that we can discount them and assert—if we do assert—that objects look different in shape from what they are in reality. Lastly it is precisely because there are no such spatial relations between observer and observed in the case of pain, that, with respect to it, no distinction between reality and appearance can be drawn.

It follows that the distinction, as used in our ordinary experience, arises from the special nature of the spatial relation between the object and the observer. Hence its application to knowledge in general and in a different connexion should arouse suspicion.

To apply these results. The essential feature of the first theory referred to, is that things suffer distortion in being presented to us. Two kinds of attributes are presupposed, those belonging to things

as they are in themselves, and those belonging to them as presented to us. And we know only the latter.

The falsity of the theory should now be obvious.

(1) Even if we allow the distinction between the attributes of things as they are in themselves and their attributes for us, we are obliged to allow that we know the general nature of the former. Accordingly we must know not only the detailed nature of the attributes for us but also the general nature of the real attributes.

(2) The distinction just referred to is wholly false. There is no such thing as an attribute of a thing as presented to us. All attributes used in stating how things look are primarily applicable to things as they are. The theory takes a distinction of detail and converts it into one of general structure. And the preceding analysis, if successful, shows that the distinction between reality and appearance presupposes that we at least know the *general* nature of reality.

(3) It has been pointed out that to distinguish between reality and appearance, we must be aware of and understand a special spatial relation in which we stand to objects as observers. Such a presupposition is excluded where the problem is the purely general one of the relation of reality in general to us as percipients.

It should now be possible to formulate more clearly what constitutes (1) the plausibility of the theory in question, and (2) the wrong step in the argument leading to it.

The plausibility is due to the real fact that in making use of perception to judge of the nature of an object, we have to take into account the special relation of the object to the perceiving subject, and that consequently we must discount what we should judge it to be, if we relied on the verdict of immediate perception. This suggests that in *knowing generally*, we must discount an element which belongs to objects only in appearance through their relation to a perceiving subject, *i.e.*, that relation to a percipient affects for the percipient the general nature of reality as well as its details.

The mistake in argument arises from a mis-statement of the real fact. 'The moon looks as large as the sun' is taken to mean 'while I do not believe it is as large, I perceive it to be as large, *i.e.*, for my perception it is as large'. The distinction between what a thing looks and what it is has to be stated, and it is stated by saying that *for perception* it is one thing, while *in itself* it is another. Then perception being the only means of access to the thing, it follows that we only know the thing as it is for perception.

But (1) the statement that something is so 'for perception' is vicious in principle. An assertion claims to be the recognition of objective fact, *i.e.*, of what is. If the words 'for perception' are significant, they constitute a restriction; they must mean 'only for perception'. But the assertion that something is so only for perception is a contradiction in terms. For perception is perception of what is; it involves judgment and its formula is, 'we perceive something

to be so and so'. And it is just this objectivity of perception which is the main factor in the transition from the view that we know 'things only as they appear' to the view that we know only appearances. We hesitate to assert that objects are so and so for perception and therefore transform this statement into another, *viz.*, that the appearances of objects are so and so. By making the appearance into a new object, we gain a new and suitable subject of assertion because, as an appearance, it admits of no distinction between what it is and what it is for perception. The new statement, however, is obviously false. Not only is the assertion 'the look of the moon is not as large as the look of the sun' not the equivalent of 'the moon looks as large as the sun' but it is not sense. There is the same absence of meaning in the statement in which Kant's view that space is a phenomenon ought to find expression, *viz.*, 'the look of things-in-themselves is spatial'.

(2) The statement 'the moon looks as large as the sun' is only in appearance an assertion about present perception. It is not true that I now perceive the moon to be as large as the sun. It is not so for my perception. For, as has already been urged, perception implies the belief that what I perceive is as I perceive it. The true meaning of the statement is, 'If I were to forget my position as an observer, I *should* assert that I perceived the moon to be as large'. The theory in question takes 'look' to mean 'is for perception,' which as opposed to what 'really is' involves a contradiction. 'Look' properly means 'would be perceived to be, if certain conditions were forgotten'.

The proper way to describe the process of taking into account the conditions under which we perceive, is to state it as a process of 'discounting' or 'correction'. We begin with an immediate judgment of perception, 'I perceive the moon to be as large as the sun'. Then reflexion on my position as an observer forces me to modify this judgment, and I assert, 'The sun is really larger, though if I were to forget the difference of distance, I should say that I saw it to be as large'. The point is that the immediate judgment of perception does not remain side by side with the judgment that corrects it. And only if it remained could I say, 'for my perception the moon is as large'.

The fact is that the hold of the phenomenalist view upon us arises from the almost inexpugnable conviction that the distinction between appearance and reality involves two distinct things, objects and their appearances. It is this conviction which lends colour to the view that when we have discovered that something is not really so and so, it still is so for perception. For it enables us to assert that the appearance remains, even when we have discovered that it is only an appearance.

Yet it seems impossible to avoid the conclusion that there are no such things as appearances at all. An appearance seems necessarily to mean one of two things, either (1) a perception, or (2) simply a sensuous image. In the former case a judgment is

involved, but a judgment which disappears upon reflexion on our positions as observers. In the latter case the desired result is not gained even if we disregard the activity of thought necessary to apprehend the image. For the image stands in no relation to the object, except possibly as its effect. And whatever it is, it is not *its* appearance or the appearance of anything. And if that be so, no distinction between reality and appearance remains. There are two kinds of reality, objects without the mind and images within it, and we know the one and we do not know the other. Lastly, examination of instances leads us to the same result. However much I see an object distorted through bad glass or in reflexions, it is the thing which I see. There is strictly speaking no 'look' or 'image' of the thing; there is only the thing with its characteristics distorted. The word 'look' or 'appearance' properly refers to a judgment, and that not a judgment I make now, but one which I should make under certain conditions.

H. A. Prichard.

VI.—CRITICAL NOTICES.

A System of Metaphysics. By GEORGE STUART FULLERTON, Professor of Philosophy in Columbia University, New York. London and New York: The Macmillan Company, 1904. Pp. x, 626.

THE qualities of Prof. Fullerton's book spring from two roots; from a great talent and a great distrust. He has all a metaphysician's subtlety and all a practical man's suspicion of metaphysical flights. The result is a volume in which the natural impression of the world, the picture that experience paints on the practical mind, is not rejected but re-analysed, and in which the philosophies that threaten it are attacked with sharp weapons in the rear.

Descartes had hardly laid down his principle of universal doubt and undertaken his scrupulous reconstruction before he is found dropping the words, in a parenthesis: "I will here, with your permission, freely use the terms of the schools". His contemporary Hobbes, on the other hand, propounded no doubts as to the reality of the world, but on the third page of the *Leviathan* was already rebuking "the schools" for "insignificant speech". The spirit of the traditional English philosophy, in its contrast with the continental thinking, thus spoke at the very outset. In Prof. Fullerton it finds perhaps its most resolute exponent. He is sceptical of words, not of things. "What does it *mean* to say that the infinite divisibility of time is matter of intuition?" In the accent of that question is heard the ground-tone of the book. Hence its seeming diffuseness, the expression of an indefatigable care for clearness and genuineness in construction. "There has been so much mystification," to quote the author's casual words about a passing topic, "that one cannot be too explicit." Hence, too, the avoidance of summary formulas couched in the treacherously facile terms of technical philosophy, the pure and simple style, the abundance of destructive criticism. The author's deliberate exposition at least keeps us in the presence of the concrete, or persistently leads us back to it as the touchstone for every formula. There is an old infection in philosophy, according to Prof. Fullerton, which is carried by language, and which in unconsidered ways still vitiates nearly all phases of philosophy; the tendency to materialise psychic things. His book might almost be described as

one long effort, in various regions, to track and expose this original sin of thought, and, in revealing the error, to reveal the truth. A metaphysical insight, like a gymnastic feat, has not only to be achieved but to be practised before it is made one's own, and usually old habits of "co-ordination" have to be unlearned before the new is acquired. The trained metaphysician in his impatience must not forget that there are others who need such a patient initiation; nor that it may even be suspected that, precisely because of his training, he needs it himself.

The metaphysical discussion begins with what the author calls "the psychological standpoint" with regard to the external world; the notion that a man in his private mind, confined to the circle of his own perceptions, knows through these a world of a different order beyond them. We have an analysis of representation. "We can only know through a representative those things which this representative can truly represent. . . . A representative can never stand for something else in so far as that other thing differs from it" (p. 52). Further, to know that our representative represents, nay, even to take it for a representative, is to be provoked by its presence to conceive something beyond it, and this we cannot be without prior experience, both of things represented and their representatives; a prior experience that can only have been immediate, since it makes mediate experience for the first time possible. "It requires a certain amount of information to be able to recognise that a given experience is a representative of something beyond itself." An "external" world of matter cannot therefore be represented by a consciousness that lacks the characters of materiality and is wholly "internal". Such a consciousness has neither reason nor power to infer such a world. "For such a mind it is inconceivable that the external world should exist at all." But if representative knowledge of an essentially non-mental world is impossible, the author also notices briefly a suggestion (coincident on one side with that which Mr. G. E. Moore has been ingeniously elaborating) "which grants the mind a direct knowledge of external things independently of the existence in it of such a representative image". And he puts his finger at once on the weak spot in the conception. "How, on such a basis, can the psychologist explain the possibility of being deceived about the natures of things? How explain an hallucination?" If the non-mental thing were "immediately present to the mind" "no mistake" as to its reality "would be possible".

In part ii. we find elaborated "a view," in the author's modest words, "of the external world which, I am glad to think, is not fundamentally new, even though it differs in some details from other doctrines with which the reader is familiar. Possibly some will be tempted to call it, at first glance, idealistic; but this name, with the associations that cling to it, can only lead to a misapprehension of its true nature." The long exposition is a masterpiece of dialectical construction, from which in our inadequate summary

the unwearied appeal to the concrete, and much else, must be omitted. It takes the form of an inquiry into what is meant by "a real thing," and begins with the classic point of departure, "this table before me". "When I speak thus, I am not talking about a little copy of such a table in, or somehow connected with, my brain—a representative, which is unlike the real table, but in some inconceivable way stands for it. . . . The real external table is, then, a something in our experience. It is given in consciousness. When we have said this we have, to be sure, ruled out a possible source of error." But "if we simply maintain that the table of which we are speaking is, since it exists in consciousness, a state of consciousness or part of such a state, and rest content with that statement, we seem to obliterate completely the useful distinction between things and our ideas of things". The table is more than this one experience of colour-sensations which is all I have of it in sensation at the moment; it has a wealth of character besides. And the other elements of experience that appertain to its character, even some that are necessary to the very conception of "a table," have at the moment that I perceive it not the quality of sense but the quality of imagination. Psychologically viewed, the sensible table-characteristics and the imagined are thus different. Viewed as table-characteristics they are on the same footing. Moreover, when I withdraw beyond reach or sight of the table, not only some but all of its characteristics have the quality of imagination and not of sense; yet, despite the change in it as a mental phenomenon, as a table it remains unchanged. Evidently we have a trained disposition to ignore the psychic transformation; that is, when we are considering the things, and not our own situation. "So little does it appear to be necessary to mark this distinction when one is discussing real things, that most persons experience an emotion of surprise when it is pointed out to them that their consciousness of things is largely made up of imaginary elements. They are interested in *things*, not in their percepts as percepts." When percepts become imaginations we "pay no attention to the fact that they are in themselves to be differentiated from sensations. The qualities of things, as we call such elements of our experience as are conceived to have a place in" the physical system, "are not conceived as existing now in the sense and now in the imagination; they are simply regarded as forming a constituent part of that system". "It is their content, so to speak, which belongs to the construction, not the content with the added characteristic of belonging to the class called imaginary." Prof. Fullerton does not mean of course that we can extract the content from its imaginal embodiment, any more than we can extricate a picture from its oils; only that we base no action and no thought, in such moments, on the circumstance that the content appears in the guise of imagination and not of sense. This seems what is meant by saying that "we abstract from the degree of vividness with which [it] may happen to appear in consciousness"

Meanwhile the physical system has its integrity, and it is not every table of the imagination that can find admission to it—"I do not believe the table in the next room to exist merely because [*i.e.*, in that] the perception of it is in my mind". The imaginal table figures to the mind as a real part of the physical system on the understanding (which as regards our consciousness is in the first instance entirely tacit) that it could, under appropriate circumstances, be exchanged for sensation. When the mind does come to mark the difference between the imaginal and the sensory it recognises at once that "the table as seen . . . is actually in the setting in which things must be if they are to constitute elements in the external world"—in the physical system—and that the imaginal table is not in such a setting. The setting is the all-important fact. For what is the test by which sensation shall be distinguished? Sensation is not always more vivid than imagination. We have to turn to "the only ultimate criterion, a recognition of the way in which the experience *behaves*, of the place among our other experiences which it takes and maintains, and thus to decide upon the class to which it rightly belongs". "We must discover whether it takes its place among those elements of our experience which so connect themselves together as to form what we recognise as the system of material things." For there is an orderliness in this system lacking in our other experiences. Thus the test of membership in the class of sensations and the test of membership in the physical system prove to be in one stage of analysis the same; namely, their presenting themselves in a certain recognisable order independent of the will. Imaginal tables, etc., do not in their behaviour manifest this order. When one to whom an imaginal table has been, in point of content, on precisely the same footing of objectivity as the table of sense, is led in any case to remark the fact that it is merely imaginal—*i.e.*, probably in some sense fainter and certainly not in the order of involuntary experiences—he comes to take the imaginal edition as secondary. "He sees that the imaginary constituents of the world of real things which he finds in his experience do not take their place in that construction *as imaginary elements* but as representative of sensational elements." "They are important to us primarily on account of the function which they perform," that is, as guiding our wills in relation to the sensations for which they stand. They are representatives in effect—blind representatives. It was for this reason that in the economy of our natural thinking we were trained to "pay attention" only to their content, ignoring the imaginal quality; for of such content, in its determinate context, is the physical world composed. When we see the representative function of imagination and the possibility of misrepresentation, we have drawn the distinction between things and our ideas of them.

But if the physical world does not consist of our imaginations, neither does it consist of our sensations. Our actual sensations

are fragmentary and intermittent. The physical world is constant and complete. Just as we ignored the difference between imagination and sense, we build up our conception of the external world by ignoring the distinction between sensations that are, and sensations that under due conditions might be; we abstract from the situation of the percipient; we make a huge mosaic of our fragments; we see in the total body of sensuous content a single systematic whole. In this construction in our consciousness the question of "setting" or context, the relation of one experience to another as its accompaniment or condition, is all-important. The actual sensations of any one occasion are of inferior importance. Just as in our imaginal ideas of things physical it is the content that matters and not the imaginal quality, so in our sensations it is still the content that is of the essence of "the physical world" and not the particular actual embodiment of that content. We must experience the world in particular sensations, or picture it in particular imaginations, but it is the sensuous pattern, the mutual arrangement of experience, the "ideal system," on which we base thought and act. As our imaginal ideas of phases of the external world turned out to be representative, so our sensations turn out to be representative. But there is a difference in the two cases. Our imaginations are supernumeraries, mere copies; our sensations are representative as specimens of a manufactured fabric may represent a pattern that runs through all the lot. The sensations are a standard for reference, the imaginations not. Thus objects are immediately present in our consciousness, and yet the same objects may be immediately present in the consciousness of others. It is the kind that matters, not the psychological specimen. In a word, physical identity and psychological identity are not the same kind of identity. The identity of an object is fixed by its relations in the pattern. And we conceive of the world of objects as of a great standard content.

All this undertakes to be an analysis both of the external world as it actually is, and of "naïve realism," our instinctive conception of that world. "Naïve realism" is not blindly accepted, but at each stage the experiences are pointed out upon which its tenets are based. The discussion, as we have said, takes the form of an analysis of what is meant by the expression, "a real thing". Prof. Fullerton distinguishes in this connexion two senses of the word "real," namely (1) actual in conscious experience, and (2) belonging to the physical system. In the latter sense, "when we recognise anything as real, we are never confining our attention to the thing itself, but are always keeping in view its relation to other elements in our experience". It is in the second sense that we say that what we experience in hallucination is not "real". It is indeed actual in experience, but it does not belong to the physical system. In this second sense, which is that appropriate to our discourse about the physical world, it would be incorrect to say that an unperceived object is non-existent or a mere possibility, for

though it is such in relation to the stream of consciousness, it has its inalienable place in the physical system, in the standard content.

The fact that "order" is found in our experiences is what makes life possible; the more of it we find, the better in general for life. Hence we give the more regard to those elements of experience which lend themselves better to treatment as an order. When, within the general order of physical experiences, "we distinguish a nucleus which is peculiarly serviceable in definitely ordering and arranging the whole, certain of our sensations take the place of signs and others come to hold the more dignified position of thing signified". Here we have the distinction between appearance and reality. But the application to any given complex of sensations of the term "appearance" does not in the least do away with the reality to which it may lay claim in that it is a complex of sensations. If it did not belong to one system with the thing signified, it could not serve as a sign. The word "system" is here used in a more inclusive sense. When the scientific thinker concentrates attention upon the mass and energy of matter in motion and calls most of its apparent qualities merely "subjective," "he is separating from the mass of his sensational experiences a certain group which can be made to fall into a definite and measurable system, and which can serve as a means for relating and ordering sensations of every kind". Atoms, molecules and their laws are a working hypothetic completion of that apparent system in physical experiences which is what constitutes their objectivity. So far as the hypothesis *fits* our widening and elaborated experience, we are encouraged to think that a sufficiently complete experience would realise its terms. "We are dealing with a construct, and objects are called real when it seems reasonable to assign them a place in that construct."

Despite much affinity in this account to those of Berkeley, Mill and others, there are noteworthy differences. It is recognised that a thing, though wholly phenomenal, is not identical with the psychological fact called a percept and therefore does not cease to exist, or begin to be "potential," when the psychological fact ceases. Prof. Fullerton affords materials for a complete reply to objection here, though he does not put them in the form of such a reply. If, for instance, it were urged that, when we turn away, the table, having no basis of existence but experience, is not there any longer, the answer would be that if there is a "there," there is a table; the space in question having the same basis of existence as the thing in question. So much is obvious; but, if the objector, amending his language, now says, "At least it is true on your principles that, *when* the percept does not exist, the object (and its space as well) do not exist," the answer is, that if there is a "when," there is a table; the time in question having the same basis of existence as the object. Out of psychological space and psychological time are produced the "constructs" of

objective space and objective time as systems of relations between the experienced. Objective time is computed in terms of objective motion. "The real world in space and time," the world of daily thought or of natural science, being in its whole span a construction, a necessary expression of the aggregate relations or total form of experience, its parts have equal tenure of reality, and it is idle to adduce the peculiar nature of the existence of all to disprove the existence of any.

Prof. Fullerton asserts in effect that it is not true in any simple or ultimate sense that an experience of one consciousness takes place "at the same time" as an experience of another. It is true in a complex and analysable sense. It is true, in that the corresponding events in the physical world take place at the same objective time. In what sense then does a physical event "correspond" to a psychic? In a sense that gains its meaning wholly from experience, namely, that the one does not have its place in the physical system at all, unless the other makes its appearance in a consciousness: and *vice versa*. This is the force in saying that events in the brain are "directly correlated with consciousness". We give a man's feelings and ideas a date in the cosmic system by reference to his body. Without the system, the "construct," the world would fall apart into forms of consciousness as between which even simultaneity and subsequence would be unmeaning. "Without the objective order, without the real world in space and time, there would be no *world* at all. in any proper sense of the word, no universe of things and minds, no system, no experience."[1]

The author differs then most vitally from Berkeley and Mill in refusing to take time as ultimate; a difference that one might provisionally and under protest at the word express by saying that he is an "idealist" as to time, and that they never were. (None the less one cannot resist the surmise that Mill would have accepted outright such a masterly advance on his own analysis.) This difference as well as the last quotation, suggest forcibly an affinity to Kant. We are reminded of the construction "according to rule," the "lawful context of experience," the conception that experience (that is, the experience of a world) is rendered possible only by the orderly construction. It is interesting that this affinity should exist without apparent debt, with antipathy to Kant as a thinker, and with rejection of the theory that such a construction involves *a priori* materials of thought.

His immediate difference with Kant in the theory of the external

[1] Setting out from the same premisses as Prof. Fullerton, Prof. Strong, in his important work *Why the Mind has a Body*, arrives at a widely different conclusion, namely an idealist panpsychism that finds the real seat of the operations of nature in a world of psychic "things-in-themselves". The divergence seems due to the different conception of time. *Cf.* Prof. Strong's brief and vigorous article "Consciousness and Time," *Psychological Review*, vol. iii., p. 149.

world relates to the composition of space and time. His own view is substantially identical with Berkeley's—that the "real" thing in the first sense of that word is never infinitely composite, and the "real" thing in the second sense, which may justly be regarded as infinitely divisible, is only an order of experiences—its divisibility only "a system of substitutions". Of all antinomies, including Mr. Bradley's, his view coincides with that pointedly expressed by Prof. Strong; that they arise, "not from a vice of reason, but from an error in reasoning".

The element of order, seen to be essential to objectivity, develops in the exposition into that of mechanism, and we are confronted with the relation between mind and body. Briefly, Prof. Fullerton is an automatist who regards the relation of mind and body as unique and hence neither capable of explanation nor requiring it. The relation is not causal, for cause has meaning only in the physical system. Cause is a term of time, and it is evident on his principles, that, as a state of consciousness has a date only through being inseparable from bodily facts which have a place in the system of moving matter, so a state of consciousness can be a cause only *through* bodily facts that are operative in that system. The author's thorough and trenchant criticism of theories of parallelism is conducted to show how many of them yield to the temptation to think of psychic facts in material picture; to show further that both the material and mental members of the relation are matter of experience.

Over the last part on "Other Minds and the Realm of Minds" we cannot linger. Prof. Fullerton's deferred approach to the subject is amongst the signs of his total rejection of the doctrine of Clifford and later writers that the essence of objectivity lies in the fact that fellow-beings may share our sensations. In the argument for fellow-minds his concern is to point out that the assumption of an independent material world is indispensable. He finds no evidence for panpsychism; and it is of course clear that, to one who denies that a purely mental fact can be a cause at all, the conception of a realm of interacting sentiency as the true scene of the causal continuities of nature must be unmeaning. Here again appears the influence of a principle that, though not singled out for emphasis, might almost be called, when we grasp it, the key to the book; the principle that "real time" is a construction bound up with the physical order, and that without such a construction mental facts would have no place in a temporal system at all. In the chapter on "The Unity of Consciousness" the author sweeps the ground of mare's nests in his most vigorous manner. "It is . . . not surprising that acute minds should plague themselves with what they call 'the problem of the unity of consciousness'. Nevertheless, there is no such problem. . . . A problem, to which no solution can be given which does not consist in a mere restatement of the terms of the problem, is not a genuine problem." A wholly admirable chapter on Mechanism

and Teleology brings us to a discussion of free will; in which the author, always an analyst rather than a sceptic, completely sustains the popular consciousness of freedom, while offering a deterministic analysis of it. In the final chapters "Of God," the fine and formidable edge of his analytic instrument is applied to some species of current metaphysical theism. The author admits, however, a remote analogy "beyond the present borders of science" by which we may infer a divine mind from nature somewhat as we infer a man's mind from his body.

In partially summarising a work whose chief want is of summaries I have dwelt upon the central theory of the external world; at once the most difficult portion of the book and that upon which the rest depends. In doing so I have purposely made an omission. I have wished to show that this theory in no wise depends on a certain questionable principle or verbal practice of the author's. He refers, briefly but recurringly, to the totality of things, the entire world of our recognition, as "consciousness"—consciousness, as he explains, "in the broad sense". In the narrow sense, the term stands in antithetical dependence on the external world; "my consciousness, as my consciousness, simply disappears if the objective order be wholly abstracted from". But this is an antithesis within consciousness in the larger sense of the term. The mind of self, the minds of others, the contrasted objective order, are in this larger sense all equally consciousness-elements. "It is impossible to pass, in any intelligible sense of that word, beyond this realm." In short, he stands here with Fichte, though evidently without indebtedness and without acceptance of the Fichtean notion of an "activity" behind experience. He stands with such contemporary followers of Fichte as Prof. Windelband and Prof. Rickert. His distinction is essentially that between the pure ego and the empirical ego. And the objection is (Prof. Fullerton's own thought extended to a larger sphere) that there is no reason to apply terms of a subjective cast to that whole in which the subjective is only one member in an antithesis. First in thought, say our author and the Fichteans, we must recognise consciousness, for thought implies it; it is only secondarily and as a fact of experience that we recognise the individual consciousness as such. First in thought, let us rather say, we come upon the world, existence, and it is only secondarily, by a distinction within that world, that we conceive consciousness. We come upon the idea of consciousness and of the individual consciousness at the same instant; there is no difference between them. If there is no reason to say "my consciousness" or "his consciousness" there is never any to say consciousness at all. It is when I wake to the fact that the things of thought and sense are, as now realised, appearances in a group of appearances that we come to need the term; and in that instant I set the assembled apparitions to which I apply it over against a sphere of possible reality distinct from them;

they take their place as one field of consciousness; as a part of the world of my thought's reach; that world is always larger than they. It is one thing to discover within that world that we have no reason to attribute existence in the ultimate, irresoluble sense to anything but fields of consciousness; that the material order is but a legitimate construction of the mind; it is another to swallow the material order and all minds into the consciousness now knowing.

In such a criticism, carried so far, Prof. Fullerton will perhaps see perversity. Has he not examined the idea of representation and shown that it is impossible by putting together consciousness-elements to construct something truly representative of a world which is not a part of our experience? Does not then the whole world of our ken and fancy become synonymous with our experience? Has he not shown that we know even "external things" "immediately"? Let us retort with a question. In "consciousness in the broad sense," or what we should call the world, there appear many individual minds. These minds in varying measure know each other; have true beliefs about each other. That is, in varying measure they represent each other. But this, a knowledge we recognise in others, cannot be an immediate knowledge; two minds, as the author says, are mutually exclusive. It must be a representation in absence. And when I think of my own mind as one amongst the minds of the world I must think of its representation of other minds, and of past and future, in just this light. These are knowledges that I know; they are in one sense of the word objects; knowledges that appear as facts amongst other facts in the total that the author calls consciousness. Now is it not true that whenever in reflexion we have reached the point of calling the whole sweep of the appearing world consciousness, we have turned upon ourselves and made of our consciousness an object; a discriminated fact amongst possible other facts? The very thought that stamps the world as "consciousness" opens up a possible world beyond it. Such a thought puts this "consciousness" on just the same footing as any fellow-mind. If so, "consciousness" in the largest sense we can attach to it may be conceived as capable of representation in absence. If we insist upon surveying a more inclusive whole we must take "the world" Thus by the very conditions of thinking one is debarred from identifying the expanse of reality with one's field of consciousness.

Representative knowledge is then, on any system, an inexpugnable fact in the world. The question how to reconcile this conclusion with the author's arguments in the chapter on the Psychological Standpoint, which are in the main coercive and final, is too large to be answered here. It may be suggested that the answer will be found by accurately distinguishing the psychology, the metaphysics and the logic of knowledge. The laws of thought exclude any plausible argument for a doubt of the world beyond one's consciousness. But metaphysics knows nothing of

thought's "self-transcendence"; psychology knows nothing of representative intent; and the category of "reference" in logic is none the less primary there because metaphysics and psychology can analyse it into resemblance and function.

It must be said, however, that Prof. Fullerton's conceptions are not sufficiently expressed in this direction to show how far his divergence from the view just expressed lies in verbal habit and how far in thought.

In stating his theory of the physical world we have made another omission. We have not noted (and we do so with diffidence) the almost intangible signs that two tendencies are at work. The first of these is that to which we have given rein in the exposition: to regard the second sense of the word "real" as ultimately analysable in terms of the first, to regard objects as ultimately analysable in terms of experience. The second tendency is to regard the second sense as equally simple and ultimate with the other. The second tendency seems bred of an increasing impulse to nestle yet closer, if possible, to common sense; to push as far away as possible from the eccentricities of "idealism". However, if the second tendency had its way, surely the term "construction" as applied to the physical world would have to be given up, and the chapter which explains infinite divisibility as "a system of substitutions" would have to be rewritten. As it is, the disturbing presence of both suggestions is not out of accord with the pregnant genuineness of the book, and marks the hesitancy of refined thought before the final phase of the problem. We must look to its author to dispel a misunderstanding, or to organise further the elements of his theory.

In the intellectual temper of the work we find no fault. In one respect the whole sets a good example which should be noted as we turn from it, namely, in the searching critical fire kept up at loose thinking on all sides. In the present state of plethora and confusion few conceptions can be driven home unless one shows what they are not. Aimed chiefly as it is to cure one great taint in speculative habit, the book would have missed a chance of service if it had less persistently laid bare the workings of fallacy. Destructive criticism is censured for its sterility, but we hold with old authority that there is a pruning that makes the sound grow strong. No one can say that modern philosophers are not productive, but who is hardy enough to maintain that they have produced the tests and tested principles on which a science rests; or that they have produced them as nearly as by discipline they might? In reading this author's "negative criticism" we could wish that the higher walks of thought were always so well policed. His wit and true strokes of satire are not here misplaced.

DICKINSON S. MILLER.

Grundzüge der Physiologischen Psychologie. Von WILHELM WUNDT. Fünfte völlig umgearbeitete Auflage. Leipzig: Engelmann, 1903. Translation of Part I. of the same by E. B. TITCHENER. Sonnenschein, 1904.

THE fifth edition of Prof. Wundt's great work fills more than two thousand pages and treats of so large a mass of controversial matter that the call to review it has produced a temporary mental paralysis, and this, my excuse for the tardy appearance of this notice, is offered together with humble apologies to the readers of MIND. It is not necessary to dwell on the merits of the work or to point out again that it marks an epoch in the history of psychology, and, since it is impossible to deal with all its many aspects, I propose to select one only for criticism, to inquire how far Wundt's handling of the physiological data, so rapidly added to since the appearance of the first edition, is satisfactory, how far he succeeds, by bringing them into a natural and helpful relation to the psychological data, in laying the foundation of physiological psychology, in short to examine his treatment of the principal psycho-physical problems.

The greater part of the first volume is devoted to an exposition of the structure and functions of the nervous system. The doctrine set forth represents a well-defined stage in the development of neurological science. It has long been known that the central nervous system seems to be wholly made up of fibres and nucleated cells. The fibres seem to be of the same nature as those which constitute the peripheral nerves. In the latter they seem to play the part of excitable conductors of the nervous impulse only, and the most refined methods of research have revealed no important differences of structure or function among them. Therefore, when the doctrine of the punctual seat of the soul was found to be untenable and a more materialistic view of the nature of mental processes began to predominate, it became usual to regard the nerve-cells of the central nervous system as the seats of processes very much more complex than those of the fibres, and to speak of a single cell as the seat of a percept or idea, or of the processes which are the physical correlates of such a complex state of consciousness. This view is still maintained by some authorities, but by most it has been given up in favour of the conduction-hypothesis, the view that the central nervous system consists essentially of a vast system of conduction-paths whose function is to distribute in an orderly fashion to the nerves leading to the executive organs the impulses initiated in its various parts, either spontaneously or by the arrival of impulses along the sensory nerves. This orderly distribution or co-ordination of efferent impulses seemed to be the expression of the existence of paths of very various degrees of openness or resistance through the vast network which the fibres of the central nervous system were supposed to constitute. Later it became clear that the co-ordination of impulses effected by the

greater or less degrees of resistance of conduction-paths is modified not only by augmentation, but also by inhibition, of impulses within the central nervous system. And careful studies of the simplest processes of central conduction, namely, those of the reflex-arcs of the spinal cord, then revealed other important differences between them and the simple conduction-process of peripheral nerve-fibres. It was found that in traversing such a simple reflex-path the nervous impulse always meets with a resistance such as it does not encounter in the peripheral nerves; that this resistance is only to be overcome by an impulse of a certain strength or by the summation of a series of feebler impulses; that it causes a delay in the passage of the impulse; that it is much greater for impulses passing up from the motor nerves than for those arriving by the sensory nerves, so that an impulse can as a rule pass only in the forward or efferent direction; that this resistance is variable by a number of influences; that transmission through the central path gives the impulse a rhythmical character, and that the process of central conduction, unlike peripheral conduction, is liable to fatigue. Since none of these peculiar features are found in the conduction-processes of peripheral nerve-fibres, and since fibres and cells were supposed to make up the whole nervous system, it was natural to attribute them to the influence of the cells lying upon the course of the fibres of the network. The taking of this step produced what may be called the nucleated-network view of the central nervous system. About twenty years ago, while this view predominated, great improvements of methods enabled histologists to show that nerve-fibres and what had up till that time been called nerve-cells are alike only parts of cells, that every complete nerve-cell or neurone consists of both a nucleated body and one or more thread-like prolongations of the protoplasm of the body, and that every nerve-fibre is but such a part of a nerve cell. It was further shown that a fibre soon dies if separated from the cell-body. The nerve-cells therefore appeared as the structural and the vital or trophic units of the nervous system, and to the nerve-cell so conceived the term neurone is sometimes applied. Now many kinds of evidence, direct and indirect, converge to prove that all those peculiarities of central-conduction enumerated above are due, not to the influence of those parts of the neurones which contain the nuclei, but rather to the peculiar nature of the structural and functional connexions between the members of the chains of neurones that constitute the central conduction-paths. Such connexions have been happily named synapses by Sir M. Foster, and, though the details of their structure remain obscure, the importance of the part they play is now widely recognised by British physiologists (as was shown in the discussion on the nerve-cell at last year's meeting of the British Association). The neurone is thus, for those who accept this conclusion, no longer merely a histological fact, but has been raised by experimental observation to the rank of a physiological theory which, when combined with the con-

duction-hypothesis, gives us new and fruitful conceptions of the mechanism of the nervous system. According to this view the neurone is not merely a structural and trophic element, but is also the functional unit, and the study of the nervous processes becomes, not merely the study of the conduction of impulses through a vast network modified only by the presence of nucleated cell-bodies on the network, but rather the study of conduction in the neurone, of the reciprocal relations of the neurones and of the action of neurone on neurone across the synapse. This scheme of the nervous mechanism, strongly based as it is by inference from many experimental observations, is of the greatest value to the physiological psychologist, for it is much better suited to his needs than the older conception of the nucleated network. Yet Wundt substantially retains this older view and accepts the neurone, not as a physiological theory, but as a histological hypothesis merely (i., 42). Hence he is led to form a number of hypotheses as to the structure and function of the nucleated parts or cell-bodies which are not supported by any direct evidence and which afford less satisfactory explanations of the observed facts of central conduction than does the neurone-theory. An example may be given. Wundt attributes the variable degrees of resistance presented by conduction-paths to the substance of the nerve-fibres in general and to the nucleated parts in particular. But experiment has failed to prove any such resistance to the passage of an impulse in nerve-fibres or cell-bodies, and if, as Wundt teaches, the conduction of the impulse through the nerve-cell is essentially a process of explosive decomposition, it is difficult to see how it can offer resistance to the passage of the impulse any more than a train of gunpowder can offer resistance to the passage of the flash. To meet this difficulty Wundt invokes the aid of an hypothesis concerning the relation of anabolic and katabolic processes, which, though superior in some respects to Hering's well-known though little understood doctrine of metabolism, involves the same fundamental difficulties. The formation of habits and other effects of use and practice are regarded by Wundt as due to diminution of this resistance of the cell-substance, and are assimilated to the raised excitability exhibited by a nerve-fibre during a few seconds after stimulation. He thus identifies two effects which the neurone-theory would keep apart, namely on the one hand *facilitation* or *Bahnung*, that temporary and fleeting increase of the excitability of neurones which Exner first demonstrated in the central nervous system and to which he first applied the term *Bahnung*, and on the other hand the permanent lowering of the resistance of conduction-paths which the neurone-theory would attribute to some structural change in the synapses that connect the constituent neurones of the path, a change which renders the connexions more intimate and which is usefully distinguished from facilitation by the term *canalisation*. Here the neurone-theory has the further advantage over the network-theory that, the junctions between neurones being much more numerous

than the neurones themselves, they provide a correspondingly richer, more adequate structural basis for the explanation of that differentiation and specialisation of manifold conduction-paths which is the essential process in the formation of neural habit. For a neurone commonly forms a link in many separate paths of different function, and if canalisation consists in some change in the general substance of the neurone or in its nucleated part, the repeated use of any one of these paths must result in improvement of all of them, a result hardly compatible with that delicate specialisation of function which probably underlies all acquisition and education.

Wundt's views on these fundamental points inevitably determine his treatment of all the special psycho-physical problems, rendering it somewhat vague and incoherent, and this must seem the more regrettable to those who accept the neurone-theory because that theory harmonises so well the physiological data with the doctrine of psychical elements, which is the basis of Wundt's psychological expositions. Thus, these views must have tended to, if they do not actually necessitate, Wundt's rejection of the doctrine of specific energies of the sensory cortical elements (the modern form of the doctrine of the specific energies of sensory nerves), and his replacement of it by the doctrine of the original indifference of function of all nervous elements and the adaptation of their functions to the stimuli. That in the sensory cortex of the normal adult brain there are elements of specific functions or specialised and invariable modes of response to stimulation is indisputable; but Wundt would have us believe that the specific function of each such cortical element is due only to the fact that its substance is continuous with the nervous substance in one or other of the sense-organs, the setting of which renders it peculiarly liable to be affected by some one kind of physical stimulus, which stimulus, repeatedly inducing in the nervous substance some form of change unlike that induced by any other kind of stimulus, impresses upon that substance throughout its course from sense-organ to brain-cortex a tendency to exhibit this specific kind of process whenever stimulated in any way. Wundt lays great stress upon this doctrine, which obviously is incompatible with the neurone-theory as defined above, and speaks somewhat scornfully of the doctrine of innate specific energies as an improbable and superfluous fiction. Yet I venture to think that his doctrine is quite untenable, and that the objections he raises to the rival theory are ill-founded. He attaches great importance to the fact that a person who has never had the use of one of his senses, or has lost it in the first years of life, never enjoys imagery of that sense. But that an organ should fail or cease to function when deprived of its normal stimuli is a rule of general application in physiology; and we have more decisive evidence in the opposite sense in the fact that a person born blind may experience colour-sensations as soon as the physical defects of his eyes are removed by operation. Wundt relies, too, upon the evidence

of vicarious functioning of nervous structures afforded by instances of restoration of motor function after destruction of nervous tissue; but it has not been shown that after destruction of a sensory area of the cortex the corresponding sensations are ever regained, and nothing short of this will support Wundt's view. Equally ineffective is his argument from the impossibility of conceiving the mode of origin of innate specific functions of cortical elements. Wundt's own principle of adaptation, combined with that of the inheritance of acquired characters, which he explicitly accepts, would necessarily result in the establishment of innate specific functions in the whole of each sensory tract. He scoffs at the view (accepted by Prof. James) that the origin of specific sensory functions may be explained by the principle of natural selection of spontaneous variations, yet this principle may be applied to explain the origin of these functions with just as great, or as little, difficulty as in the case of any other bodily function. He gives us a hypothetical sketch of the evolution of the senses and sense-organs by differentiation of a primitive cutaneous sensibility, and we may accept this as probably in the main a true account of the stages of development; yet the acceptance of this historical description by no means compels us, as Wundt claims (i., 449), to accept his principle of the adaptation of sensory organs and functions to the stimuli, for it is equally compatible with the belief that the principal part in the evolution has been played by spontaneous variation and natural selection, especially now that the reality of discontinuous variation has been established. And there are serious objections to Wundt's principle of specialisation by use of originally indifferent functions. It is bound up with the assumption of protoplasmic continuity throughout the sensory tract and, therefore, with the rejection of the neurone-theory which, as was pointed out above, is so superior in many respects to the older network doctrine; it assumes that the impulses carried by sensory nerves are as varied as the elementary qualities of sensation, whereas we have no direct evidence of any differences in the characters of the impulses in either sensory or motor nerves, while the success of experiments in joining together nerves of different functions implies uniformity of nature. It would be easier to imagine a variety of impulses in sensory nerves corresponding to varieties of physical stimuli if we supposed the impulses to be purely physical changes, such as various forms of regular vibration; but if, with Wundt, we assume that the impulse consists in the propagation of an explosive decomposition, it is hardly conceivable that the character of this chemical change can be determined by the nature of the physical shock which initiates it, rather than by the molecular constitution of the substance in which the change propagates itself.

A further serious objection appears when we attempt to define more nearly the nervous process that is the immediate correlate of the psychical element or unit of sensation. Wundt writes, "Hence every conscious content, though it be as in these instances quite

simple, conceived of as in isolation from its connexions, is always, physiologically considered, a complex formation made up of various nerve-processes spread over a large number of elementary parts". And it follows from his principle of adaptation that the whole sensory tract from sense-organ to brain-cortex, if not also the efferent tract by which the sensory excitation discharges itself, must be held by Wundt to be included in this "complex formation" in every part of which the specific process, the immediate physical correlate of the sensation-element, repeats itself. According to this view, then, sensation should accompany the process even though it be confined to the initial part of the tract in the sense-organ, yet all the available evidence goes to show that the excitation must be propagated through certain definitely localised elements of the cerebral cortex in order that sensation shall be excited.

Of all the special psycho-physical problems the most important, after that of the nature of the physical correlate of sensation, is the inquiry into the physiological conditions of retention and the reproduction of sense-impressions or percepts as images or ideas. For Wundt the sensation differs from the memory-image only in intensity, the latter is merely a sensation of low intensity, the presentation, whether percept or idea, is a synthesis of such sensation-elements, and the percept differs from the idea of the same object only in that some of its elements are more intense. The substrate of the physical correlate of the presentation is therefore identical with that of its reproduction as idea and it consists of a conjunction of those "complex formations" in which the physical correlates of the sensation-elements run their courses. In the case of the percept this complex "functional disposition" is peripherally excited, in the case of the reproduction it is centrally excited. This conception of the excitement of a complex functional disposition underlying the rise to consciousness of both the presentation and its reproduction is certainly very superior to that of "memory-cells" in which ideas may be deposited for future use, a conception which Wundt rightly rejects as impossible and misleading. The gaining of an insight into the mode of formation of such functional dispositions, made up of structures in widely separated parts of the brain, is one of the primary tasks of physiological psychology, but Wundt gives us very little leading here. We are told only that it must be an effect of physiological practice, and must be due to that property of nervous substance in virtue of which every excitation of it must leave behind a disposition to the recurrence of a similar excitation. What I have elsewhere called the crucial problem of physiological psychology, namely, the problem of the first formation of new association-paths in the nervous system, is thus ignored, and the conception of the functional disposition is left so vague as to be of little value save as a corrective of cruder conceptions.

Of other special psycho-physical conceptions the most important is that of the "apperception-centre" in the frontal lobe. This has

often been criticised, and I wish to make one point only. In discussing the feelings Wundt points out that they are "unitary functions," and continues, "This unity of consciousness is brought about by its specific unity-function (Einheits-function) which successively brings to especial clearness individual contents of consciousness by inhibiting all the others, and which we therefore call the central function of consciousness or, in distinction from the perceived contents of consciousness, apperception" (ii., p. 357). The feeling is the reaction of the apperception or unity-function of consciousness on the content of consciousness, and, since the feeling-tone of consciousness is at any moment a unitary state, "we are justified in postulating a unitary substratum for the physical phenomena accompanying and corresponding to the feelings" (ii., p. 360). According to Wundt, then, consciousness has not only a manifold content but also a specific function, that of unifying itself by inhibiting the superfluous sensory contents, and the exercise of this function gives rise to the state of feeling, the affective element of consciousness; and this unifying process of apperception has its physical correlate producing parallel effects in the nervous system, an inhibiting function residing in the prefrontal lobes and called into activity by stimuli from the sensory centres. Many serious objections may be made to this doctrine both on its psychological and its physiological side, especially the fact that clearness of apprehension and intensity of feeling are apt to vary inversely rather than directly, as demanded by the doctrine. Here I only wish to point out that this complex and unnatural speculation is rendered unnecessary by the acceptance of principles laid down by Wundt himself in the final or sixth section of the book, which, a new feature of this edition, consists of discussions of general principles. Wundt here lays down certain "principles of psychical causality" which govern the combinations and relations of psychical elements and insists very rightly, as it seems to me, that these relations and combinations are not to be regarded as being the parallels of any relations or combinations among the corresponding nervous processes. The first and most important of these principles is that of "*schöpferische Resultanten*," which may be adequately translated as psychical syntheses. According to this principle every psychical complex is a synthesis of the elements which analysis discovers in it, and is more than and quite other than the mere sum of the elements, *e.g.*, "every spatial presentation is a product, in which certain elements have lost their independence in imparting to it a wholly new property, the spatial relations of the sensations". But if these syntheses of psychical elements are purely psychical processes or effects, what need have we to postulate a nervous organ in the prefrontal lobes or elsewhere to bring about such unification of the contents of consciousness and to serve as the unitary substrate of the nervous correlate of feeling? And it is not only the nervous organ of apperception that is superfluous but the psychical organ also, the "specific unity-function of conscious-

ness or the apperception". For, though an analysis of consciousness into elements is justifiable and necessary, it is only when we mistake these artificial products of abstraction for entities coming independently into existence, that we feel the need of an organ or a function which shall bring them together again, which shall unify in reality the elements that we have separated in thought only.

This strange conception of consciousness as something that exists beside its contents and exercises its specific unifying function upon them is bound up with Wundt's unsatisfactory attitude towards the problem of the relations of the psychical to the physical. There are five positions that a psychologist may consistently maintain: (1) He may confine himself to the task of describing mental process, putting aside the desire for causal explanation in both physical and mental science as a natural weakness of the mind to be sternly suppressed; (2) he may base his psychology on psychophysical materialism and attempt, like Münsterberg, to redeem his position from absurdity by the recognition of a world of values and purposes unrelated to that of physical causation; (3) he may adopt thoroughgoing parallelism, the doctrine of the universal double aspect of Fechner and Paulsen; (4) he may, with Lotze, regard our mental life as the product of the interaction of soul and body; (5) he may prefer the scientific attitude, and, admitting the impossibility of settling the question by general considerations, he may content himself with regarding the third and fourth of these views as working hypotheses to be tested in the light of increasing empirically-based knowledge. Wundt adopts no one of these five positions. The first, which is in harmony with his phenomenalistic non-committal attitude towards things in general, he rejects at the outset in asserting that psychology attempts "to arrive at a causal analysis of mental process" and by the dictum that the causal principle is applicable without reserve to every kind of real change. The second he condemns as giving rise to a materialistic pseudo-science, and as the gravest danger that besets the path of our science to-day. The third is incompatible with his principles of purely psychical causation, especially that of psychical synthesis (*schöpferische Resultanten*), according to which the psychical elements alone have physical correlates while their combinations have no such correlates, and it necessitates the assumption of vast realms of unconscious psychical life and the acceptance of some theory of psychical dispositions or subconscious persistence of presentations to account for the facts of retention, conceptions with which Wundt will have nothing to do, rightly asserting that "there are numerous natural processes of which we have not the slightest ground for asserting that they, as is said, 'have a psychical side'". The fourth he rejects because the conception of a substantial soul seems to him antiquated and superseded by that of the *actual soul*, the conception of the soul as consisting merely of the train of psychical events. The last is incompatible with his philosophic habit of mind which will not allow him to pursue his science without at

the same time solving all the world-riddles and finding for psychology a niche in the logical construction which he offers us as a substitute for reality.

What, then, is Wundt's position? I confess that in spite of prolonged and painful efforts I cannot understand it. He accepts psycho-physical parallelism as a heuristic principle, but the parallelism only holds between the psychical elements (the conceptual products of abstraction) and processes in the nervous system, while to the concrete states of consciousness, resulting from the combinations of these elements according to the laws of psychical causality, no physical processes are parallel. The parallelism of the psychical elements and their physical correlates remains a bald unintelligible fact, and, although the elements are supposed to have causal relations with one another, no causal explanation of their appearance in consciousness can be given. Again, "Body and soul are a unity, but they are not identical; they are not the same, but they are inseparable properties of living beings" and "this unity is not an assumption but an experience which we can never put aside" (iii., 764), and again this unity is an indispensable presupposition for science. Wundt's position seems to combine most of the drawbacks of those other positions indicated above and to lack their consistency and intelligibility. Fearing to commit himself to any inference as to realities behind the veil of appearances and condemning every such inference as metaphysical, he yet seeks causal explanations of appearances, forgetting that the conception of a cause is at least as "metaphysical" as that of a substance and, like it, an inference from the facts of immediate experience which has rendered immense services in the past and without which science has not yet learned to do its work.

All this vagueness, not to say incoherence, of Wundt's treatment of this question is but another melancholy instance of the evils that psychology has so long suffered from its all too intimate connexion with philosophy. Like so many others, Wundt strives to construct his psychology so as to avoid the dualism which alone enables us to give a causal explanation of mental process without committing ourselves to the extravagant assumptions of thoroughgoing parallelism or to the absurdities of materialism; and this because, in the words of Prof. Meumann, "every dualistic metaphysic would leave over a number of open questions and does not satisfy man's desire for unity in his efforts after explanations". As well might the great natural philosophers of the last century have refused to entertain the atomic theory on the ground that a pluralistic metaphysic might seem to leave open a number of questions. If we seek in these pages an answer to the essential question—Is the causal physical series of events, that issues in a bodily action, a closed series that contains the complete determination of the action, or does the accompanying psychical series in any way co-operate in that determination?—we find no answer. The question is not faced but avoided by sinking the discussion to an unreal and purely verbal plane.

The final section contains a discussion of the bases of the natural sciences, as well as that of psychological principles, and this is of great interest as a statement of the matured views of this veteran thinker. But this too is infected with that artificiality which arises from a too subjectivistic tendency, which instead of facing and attempting to solve the great problems, reduces them to a purely verbal plane, so robbing them of all reality and interest. This is best illustrated by Wundt's proposed reconciliation of causality and teleology. All series of changes are both causally and teleologically determined because, the later term being given, we can argue to the earlier just as well as from the earlier to the later; both causation and teleological determination are but applications of the logical principle of ground and sequent. How simple! But how unsatisfying! Is it not better to admit that some problems remain insoluble still?

The translation by Prof. Titchener, of which the first part has now appeared, will be welcome to all English and American students, for Prof. Wundt's style is never easy for the foreigner. The translation is all that can be desired; the only complaint I have to make is that a number of unfamiliar technical terms appear, *e.g.*, myel for spinal cord, cinerea for grey matter, oblongata for spinal bulb, sectioning for severing, and that '*psychische Lebensvorgänge*' is translated 'phenomena of mental life,' a loose and undesirable phrase, which, I think, is everywhere avoided by Prof. Wundt.

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Psychologie und Pathologie der Vorstellung. Von RICHARD WALLASCHEK. Leipzig: Verlag von Johann Ambrosius Barth, 1905. Pp. x, 323.

THE present volume by Dr. Richard Wallaschek is in some sense a continuation of the positions expounded in his *Primitive Music*, recently re-issued and expanded in a German edition. In that book he presented an elaborate inductive argument, based on a multitude of facts, to show that music arises out of rhythm and the time-sense. Incidentally, he offered some suggestions towards a proof that music is an essential condition of the highest mental life. In the present volume he works up to this conclusion in an entirely different way. Prof. Sully, in reviewing the previous book (MIND, N.S., iii., p. 134), suggested that Dr. Wallaschek might work out certain points in his theory somewhat more in detail. The book now before me is not precisely what seems to have been in Prof. Sully's mind at the moment, but again incidentally it does supply somewhat of the elements then found wanting, among others certain points in the relation of the "time-sense" origin of music to the melodic scale. But the present volume covers much more than this. It starts with a definite theory of æsthetics as the thesis and shows by an objective analysis of certain pathological conditions,

supported by much carefully handled psychological material, what the ground-work of æsthetic appreciation is. Dr. Wallaschek at no point leaves us in doubt as to his meaning. With him æsthetics is "the scientific study of men at the moment of artistic enjoyment or artistic production. It is not the doctrine of the nature of objects, but of their effects. As such, it has nothing to do with the problem of works of art as pure objects detached from the impression that they produce. It is neither a mere normative science of the object (Art-philosophy) nor yet mere physiology; it is an analysis of emotional excitement (*Begeisterung*) and uses as its material the knowledge of the condition of a man when he finds himself under the influence of those things that he enjoys for the sake of enjoyment" (Preface).

That this view is in some degree a "departure from the traditional view" may be granted. It is not here necessary to discuss the validity of the theory. It is enough that it forms a definite basis for the analysis of a definable mental state. This it certainly does. Let the broad proposition be accepted that there are artists, and art-products; it follows that one way of discovering what is the truth about them is to study the mental condition of the artist at the moment of production, if that be possible, and the mental condition of the spectator while he is enjoying the product. The two are correlative. That which in the spectator enables him to see a picture as beautiful is the same in kind as that which in the artist enables him to produce the picture. And they are both allied to that which enables all to "enjoy for enjoyment's sake". Hence, there is a wide basis for inductive analysis. Dr. Wallaschek says: "The old æsthetic spoke of the object and has remained subjective; we shall speak of the subject and hope thereby to attain to a standpoint that is objectively valid". How far he has succeeded in this only a detailed study of the book can show, but the exposition is all relevant to the purpose in view. The composition is clear and trenchant. The scholarship is extensive, but lucidly produced. There are fourteen pages of bibliography. Altogether the book seems to me an excellent piece of analysis—lucid, concrete, critical.

For the present the author confines himself to the analysis of "Vorstellung". He quite recognises that for a complete theoretical basis of æsthetics a parallel investigation must be made of sensation, feeling and judgment.

The nature of "Vorstellung," which for this purpose I may translate as representative idea or representation (including process and product), Dr. Wallaschek attacks from the standpoint of physiological psychology (including pathology).

Part I., which occupies one-third of the book, deals with Speech, Singing, Reading, Writing, Mimicry, Gesture, Action in their pathological relationships. The point of view is that accidents of disease frequently result in a genuine analysis of physiological and, therefore, of mental conditions. Thus in aphasia, in some of its forms, intellectual speech may be lost, yet emotional expression be

retained. This indicates a distinct cerebral embodiment, not to say area, for each class of "Vorstellung". This principle is applied all through. And "Aphasia" is expanded to include the disturbances of other activities. The definite varieties produced by disease are, as it were, a "Vivisektion des Physiologen" (p. 306), as hypnosis is "Vivisektion des Psychologen". I am inclined to think that Dr. Wallaschek, like the majority of those that use the same materials either for psychological or medical purposes, make somewhat too uncriticised a use of the grosser pathological states. It is no doubt true that the mental phenomena associated with aphasia, for instance, in a case of hemiplegia, are constant enough to permit of detailed analysis, and the broken brain, so far as it functions at all, may still yield something mental. But it is clear that the mental phenomena present are often not functionally on the same plane as the normal, any more than the irregular muscular contractions in a broken limb are on the same plane as normal walking. The danger is less where the so-called functional paralyses are in question. The investigation of these has been abundantly illustrated by Raymond and Pierre Janet. Of this class of analysis there is little or nothing in this book. Analysis by hypnosis is carefully estimated. Incidentally, in every section, practical hints for educational purposes are freely given. One point Dr. Wallaschek repeats in many connexions, namely, that the true direction in acquisition is from whole to part, not from abstract part to whole. The part takes its meaning from the whole, which is not the mere sum of its parts. Gower's patient, who, on being requested to say "No," declared at last—"I cannot say no," is cited to show that the whole sentence has one place in the brain, the individual word another. But this assumes that the word in question, when uttered in the particular sentence, was in content the same as it would have been if uttered alone,—which is doubtful. But, in the wide sense that words as symbols of meaning and words as mechanical sounds give rise to different varieties of disposition in the brain and so form organic parts of different varieties of whole, we may accept Dr. Wallaschek's contention of whole and part. As the sentence to the word, so is the word to the letters in it (p. 16). In practical education, no doubt, the perception of meaning assists acquisition, but it is equally true that mechanical acquisition of many words, formulæ, etc., is not only possible, but essential to progress. The main point is that the thing to be acquired be the right thing. If it is lodged in the memory or in the habit, it will be of ultimate service whether the meaning is perceived at the time or not. That our rote-acquisitions at school are relatively so small is due largely to the fact that by the infinitely varied repetitions of daily life we acquired by rote much that we should otherwise have had specially to learn. Possibly, Dr. Wallaschek would accept this; but his repeated insistence on the necessity of always "understanding" what is learned seems to me too unqualified.

In Singing, as in Reading, Writing, Imitation and many other activities, parallel instances are dealt with and the same principles applied. Here emerges the question of the relation of music to word-text. Music is the expression of feeling, and the text is intellectual. But in the song the two must be combined for emotional purposes. It follows that the intellectual element is absorbed in the emotional. The words as intellectual cease to function except as the occasion for the emotional expression. This falls in with Dr. Wallaschek's well-known theory of the early development of song. In primitive song the intellectual content of the words may be little or nothing. The argument based on clinical cases is certainly strong, and he enforces it with much more detail and circumstance in the second part.

His practical deductions as to musical education are worthy of careful study, since they are obviously based in no merely theoretical knowledge of the art. The essence of the whole is that as the playing of music is a cerebral function expressed through the fingers and involves the relation of the brain to the finger, all practising should be not of purely mechanical effects, but of exercises with meaning, of true works of art. In other words, practice should not be of abstract note-scales. This is essential for beginners ; less so for the experienced, who can give a purpose even to isolated notes. He even denies the value of massage for the fingers, because, to be effective, massage should be applied to the brain as well. Here he is on doubtful ground medically. But the results are matter of experiment. Certainly, the total musculo-nervous circle must be kept in view, but there is a periphery as well as a centre, and the relation of the two is so subtle that one hesitates to dogmatise on the reflex nutritional effects that might result to the central nerve-mechanism even from the massage of the fingers. At the same time, he is right to direct the attention to the total functional unit.

Part II. deals with "Das Innere Geistesleben, Wesen und Verlauf der Vorstellungen". The first chapter is a very thorough exposition of the leading types of Vorstellungen—visual, auditive, motor. Here again the chief illustrations are from music. All three types are to be found among musicians, but the motor type is the most fundamental. The criticism of programme music (p. 141 *et seq.*) is well grounded. The author's theory of the origin of music again helps him here, but the criticism does not depend on it. The point of his contention is as before—that at the time of hearing it, music to be enjoyed must not be thought about, and the programme expositions of motives and meanings make the cardinal mistake of not allowing for this. Whatever be the guiding value of the programme, the appreciation of any piece depends in the end on the subjective state of the listener. A programme "in his head" is of use to the executant, but it cannot as such be transferred to the mind of the listener, and the effort to do so tends to destroy the strictly musical effect both for player

and listener. Of course, there is Wagner with his theories, which seem to count against this view. But it is shown that Wagner the artist was not a strict follower of Wagner the theorist. In *Tannhäuser*, for instance, the intellectual framework is of the simplest; the words, such as they are, form but the occasion for the music, and yet the emotional effect of the music is of the most subtle and powerful.

In the next chapter,—"Assoziationen der Vorstellungen und Empfindungen,"—we are introduced to a careful study of "secondary sensations,"—coloured hearing, tactile hearing, olfactive hearing, and other varieties. Naturally, "audition colorée" is discussed with most detail. This section forms an excellent summary of what is known on this topic. The author, however, omits all reference to Parish's *Hallucinations and Illusions* in discussing the relation of these to coloured hearing. There is, according to Dr. Wallaschek, no difference in the physiologico-anatomical basis of these three (p. 185). His explanation differs from those hitherto offered. Secondary sensations, he maintains, depend on the unequal dilatability of the blood-vessels of the brain (p. 187). This view is supported by much ingenious argument. In a person whose brain-vessels are unequally dilatable, a tone-sensation might not only excite its appropriate centre, but also, through the more easily expanded vessels, affect the colour-centre even more readily than this could be stimulated by its own specific end-organs. This theory accounts certainly for some of the difficulties, but the evidence adduced to show that this vaso-motor inequality is a *vera causa* is scarcely adequate. The theory looks like proving too much. It does not explain the specific limitation of the secondary sensations, for instance, to vision, or to any other one sense. There is a further ingenious suggestion that secondary sensations are the foundations of instincts (p. 191). The secondary sensation is an anticipatory function. Dr. Wallaschek regards these sensations as a condition of life. They are variations that natural selection can use. But, as has more than once been indicated elsewhere, these sensations are extreme types. The line between the least marked of them and ordinary associations is difficult to draw. Whether they are an incidental result of vascular inequalities, or in some degree the result of early, but partially obliterated, association, is a problem for further analysis by experiment and observation.

The remaining chapters deal with Memory, Natural and Artificial Diseases of Re-presentation, Sleep, natural and hypnotic. These chapters contain little that is essentially new, but the treatment is fresh and relevant. The author concludes on a high note,—art is essential to social and individual development; it is not a luxury, but a necessity of life.

W. Leslie Mackenzie.

Symbolic Logic and Its Applications. By HUGH MACCOLL, B.A. Lond. London, 1906. Pp. xi, 141.

READERS of Mr. MacColl's papers in MIND and elsewhere will be already familiar with most of the contents of this volume, but they will be glad to have his system in a more connected and accessible form than hitherto. For reaching those who do not follow closely the development of symbolic logic, publication in book form is almost essential; and it is much to be hoped that this book will be widely read. From this point of view, it has the great merit of being by no means difficult, and of demanding absolutely no previous knowledge of the subject. It appears to be intended to be suitable for beginners, and in this it certainly succeeds.

The distinctive characteristic of Mr. MacColl's writing is that he deals always with whole statements or propositions, not, like most writers, with classes. "The complete statement or proposition," he says, "is the real *unit* of all reasoning" (p. 2). Hence he is primarily concerned with *implication*, not with *inclusion*; his formulæ state that one statement implies another, not (directly) that one class is contained in another. The relation of inclusion between classes is for him derivative, being in fact the relation of implication between the statement that a thing belongs to the one class, and the statement that it belongs to the other.[1] He was, I believe, the first to found symbolic logic on propositions and implication, and in this respect he seems to me to have made an important advance upon his predecessors. In the present work, he gives the elementary formulæ of his method, re-states some parts of traditional formal logic, deals very briefly with some controverted points, and explains his interesting "calculus of limits".[2] His discussion of the syllogism and the would-be canons (about not having two negative premises and so on) should serve to show philosophers how far formal logic has travelled from the pedantic trivialities of *Barbara Celarent*. There is an excellent analysis of induction (pp. 84-85), and some illuminating definitions of received terms are given. The habitual confusion (in more or less subtilised forms) between a hypothetical and an inference[3] is shown to be a cause of wide-spread and important errors. Mr. MacColl rightly protests against the practice of stating syllogisms as if they contained inferences instead of mere hypotheticals. This might be thought to be a purely verbal question, but it is in fact, as he points out, a

[1] In MIND, N.S., No. 55, p. 400, I spoke of this as Peano's interpretation. It was, however, given by Mr. MacColl as early as 1878, and should therefore be ascribed to him.

[2] A good account of this will be found in vol. ii., part ii. (posthumously published) of Schröder's *Algebra der Logik* (Leipzig, 1905), pp. 515-563. (Schröder points out and rectifies a mathematical error in Mr. MacColl's method of changing the order in a multiple integral.)

[3] In a hypothetical, it is merely asserted that *if* the hypothesis is true, the conclusion is true; in an inference, the hypothesis being known to be true, the conclusion is also asserted.

source of much confusion. "All men are trees, some men write books, therefore some trees write books" asserts two false propositions; but "If all men were trees, and some men wrote books, some trees would write books" asserts one true proposition. "Nearly all fallacies," Mr. MacColl says, "are due to the neglect of the little conjunction *if*. Mere hypotheses are accepted as if they were certainties" (p. 49). And, we may add, hypotheticals whose hypotheses are seen to be false are unduly disregarded, because they are considered as inferences, and as such would be erroneous.

Mr. MacColl differs from most symbolic logicians on certain points of considerable philosophical importance. These are all connected with each other; and his views seem to me to spring from the fact that he deals rather with verbal expressions than with what is meant by them. In this respect I cannot but think that two relevant and connected distinctions have been overlooked, namely (1) that between a verbal or symbolic expression and what it means, (2) that between a proposition and a propositional function. A good deal of Mr. MacColl's reasoning appears to me to fail if these two distinctions are borne in mind. He distinguishes five classes of statements: true, false, certain, impossible, and variable. (These are not mutually exclusive: what is true may be certain, what is false may be impossible, and what is variable may be true or may be false, though it cannot be certain or impossible.) A *certainty* is something which follows from the laws of logic or from the data of the question concerned; an *impossibility* is something of which the contradictory is a certainty. A *variable* is defined as follows (p. 19): "When I say 'A is sometimes true and sometimes false,' or 'A is *variable*,' I merely mean that the symbol, word, or collection of words, denoted by A, sometimes represents a truth and sometimes an untruth". As an instance he gives "Mrs. Brown is not at home". Here it is plain that what is variable primarily is the meaning of the form of words. What is expressed by the form of words at any given instant is not itself variable; but at another instant something else, itself equally invariable, is expressed by the same form of words. Similarly in other cases. The statement "He is a barrister" expresses a truth in some contexts and a falsehood in others. Thus the variability involved is primarily in the meaning of the form of words. Ordinary language employs, for the sake of convenience, many words whose meaning varies with the context or with the time when they are employed; thus statements using such words must be supplemented by further data added before they become unambiguous. It is such forms of words that constitute Mr. MacColl's "variables". But is not this importing into logic the defects of common speech? One of the objects to be aimed at in using symbols is that they should be free from the ambiguities of ordinary language. When we are told "Mrs. Brown is not at home," we know the time at which this is said, and therefore we know what

is meant. But in order to express explicitly the whole of what is meant, it is necessary to add the date, and then the statement is no longer "variable," but always true or always false. It results that a variable statement is merely one whose meaning is ambiguous. Now logic ought not to be concerned with forms of words, but with what such forms mean; hence it is essential that logic should employ only forms of words which are unambiguous, and when this is done "variable" statements disappear.

There is, however, a further distinction, namely that between propositions and propositional functions; and in regard to the latter, Mr. MacColl's distinction of *certain*, *impossible* and *variable* does seem to be applicable. We may say that "x is a barrister" or "Mrs. Brown is not at home at the time x" is true for some values of x and false for others. Either of these is a propositional function; but neither is a proposition. Each is merely a general form into which many propositions fit, namely all those resulting from giving values to x. Such a form may be called a *certainty* when it is "true for all values of x," *i.e.*, when, whatever value we give to x, the resulting *proposition* is true; it is *impossible* when it is "false for all values of x," and *variable* when it is neither certain nor impossible. Thus we shall say that *true* and *false* are alone applicable to propositions, while *certain*, *variable* and *impossible* are applicable to ambiguous forms of words and to propositional functions.

Mr. MacColl's introduction of the "unmeaning" (p. 10), as a separate class of statement, again illustrates the fact that his system is often concerned only with the verbal expression, not with what is expressed. For what is unmeaning is merely a phrase; it is by no means nothing, on the contrary, it is a definite form of words. In logic, we ought to adopt such a language, and such rules for its employment, that unmeaning phrases shall not occur. This point is connected with Mr. MacColl's view as to the null-class. He says "The symbol 0 denotes non-existence, so that 0_1, 0_2, . . . denote a series of names or symbols which correspond to nothing in our universe of admitted realities" (p. 5). Here 0 is supposed to denote non-existence itself, whereas 0_1, 0_2, . . . denote *names*. Such a want of homogeneity cannot but breed confusion. Thus he says (p. 42) that 0 is the class of individuals which, in the given circumstances, do not have a real existence. But if 0_1, 0_2 . . . are to be members of the class 0, this cannot be the case. For 0_1, 0_2 . . . are *names*, and therefore do have a real existence; and since, *ex hypothesi*, they are not the names of anything, we cannot get a series of non-existent individuals which they name. It is a pity that Mr. MacColl has nowhere in his book discussed the meanings of the word *existence*. It is also a pity that he has not considered explicitly the relation of a name to the thing named. At present, his 0 seems to be the class of things named by names that do not name anything. This would be an unobjectionable definition of the null-class, if he did

not assume that the various names that do not name anything do nevertheless name a number of different unreal individuals. His view, that there are two classes of individuals, the real and the unreal, seems to assume that every name must name something; and this it assumes, I think, because his system oscillates between the name and the thing named. All individuals, I should say, are real; but some phrases analogous in form to names of individuals do not name any individual.[1]

Mr. MacColl appears not to apprehend clearly the usual position about the null-class. He says (p. 77): "The null-class 0, which they [other symbolists] define as *containing no members*, and which I, for convenience of symbolic operations, define as consisting of the null or unreal members 0_1, 0_2, 0_3, etc., is understood by them to be *contained in every class*, real or unreal; whereas I consider it to be *excluded from every real class*". The "whereas" here is quite misleading, since (as he points out in the next paragraph) the people in question also hold that the null-class is excluded from every real class. They say that a is included in b if a has no member which is not a member of b, and that a is excluded from b if a has no member which is a member of b; hence if a has no members, a is both included in b and excluded from b. Also the question is hardly to be decided by "convenience of symbolic operations," since one question at issue is whether there are such things at all as "null or unreal members". Again Mr. MacColl says (p. 78) that our view involves the absurdity that every individual impossibility is a member of the class of certainties. But we hold that there are no impossibilities, *i.e.*, no entities of which it is true that they are impossible. He himself holds that impossible propositions (*i.e.*, those whose *truth* is impossible) imply certain propositions, and points out (p. 13) that this does not mean that if a statement is impossible it is certain. There is a close connexion between the two cases, and the paradox is in both cases only apparent.

The distinction between propositions and propositional functions solves Mr. MacColl's controversy with Schröder as to the following implication: "If p and q jointly imply r, then either p implies r or q implies r". Mr. MacColl holds that this is false; and after giving a proof of its falsehood he sums up as follows: "The Boolian logicians . . . draw no distinction between the *true* (τ) and the *certain* (ϵ), nor between the *false* (ι) and the *impossible* (η). Every proposition is with them either *certain* or *impossible*, the propositions which I call *variables* (θ) being treated as non-existent. The preceding illustration makes it clear that this is a serious and fundamental error" (p. 75). The case in which, according to Mr. MacColl, the above implication fails, is when the combination "p and not-r" and the combination "q and not-r" are variable, but the combination "p and q and not-r" is impossible.

[1] *Cf.* MIND, N.S., No. 56, p. 491.

The following illustration may make this clear. Let p be "x is English," q, "x is a man," and r "x is an Englishman". Then "p and not-r" is possible, since x may be an Englishwoman; "q and not-r" is possible, since x may be a foreign man; but "p and q and not-r" is impossible. Thus p and q jointly imply r; but p does not always imply r, and q does not always imply r. The reply which I should make would be that here x remains undetermined, so that we are dealing with propositional functions, not propositions; and as regards propositional functions Mr. MacColl is in the right. But as soon as x is determined, the implication holds. For if x is not English, p is false, and "p implies r" is therefore true;[1] if x is not a man, "q implies r" is true; and if x is English and a man, r is true, and "p implies r" and "q implies r" are both true. The truth seems to be that there are two different things to be considered: (1) material implication, which holds between p and q whenever p is false or q is true; (2) formal implication, which states that, whatever x may be, material implication holds between ϕx and ψx. Of these the first alone is considered by Schröder, the second alone by Mr. MacColl; but Mr. MacColl obscures the fact that he is considering the second by employing a single letter instead of ϕx, so that he seems to have a proposition where he really has a propositional function. This certainly leads to brevity in notation, but it does so by not distinguishing between very different things. Thus he takes the statement "$A^{\theta\theta}$," and triumphantly points out how much briefer his formula is than any that other symbolists can provide (pp. 79-80). This is true. But it will be instructive to examine the matter. "$A^{\theta\theta}$" means "the statement that A is sometimes true and sometimes false is sometimes true and sometimes false". If this statement is to have any meaning, it is necessary that A should be not a proposition, but a propositional function of two variables, say $\phi(x, y)$. Then A^{θ} may mean "For such and such a value of y, some values of x make $\phi(x, y)$ true and others make it false," or it may mean the above with x and y interchanged. Taking the first meaning, we may write $\phi(x, y)^{\theta_x}$ to express it. Then $A^{\theta\theta}$ becomes $\phi(x, y)^{\theta_x \theta_y}$. This expression is somewhat longer than Mr. MacColl's, but it is unambiguous and never destitute of meaning—two points which are of great importance and in which Mr. MacColl's notation fails. It should be added that, for the expression of all such formulæ, we require a symbol not to be found in any author except Frege (so far as I know), to express "ϕx is true for all values of x". This is what Mr. MacColl calls A^{ϵ}; but it exhibits explicitly what the notation A^{ϵ} conceals, namely the fact that ϵ applies to a propositional function, not to a proposition.

Mr. MacColl claims for his system as against others that his is easy and useful, while the others are hard and rather useless (p. 1). That his system is easier than others must be admitted, but the

[1] Because false propositions imply all propositions.

view that others are not very useful results, I think, from his neglect of modern researches on the transfinite, the principles of geometry, and kindred subjects. This neglect appears, for example, in the remark (p. 103) that "most of the strange and inadmissible paradoxes of the various non-Euclidean geometries" result from confusions as to the infinite and the infinitesimal. As a matter of fact, most modern writers treat non-Euclidean geometry purely projectively or descriptively, so that no metrical ideas occur in their work; consequently the infinite and the infinitesimal are not involved at all.

The present work is not quite in line with those of other current writers on symbolic logic; but it has merits which most of their works do not have, and it serves in any case to prevent the subject from getting into a groove. And since one never knows what will be the line of advance, it is always most rash to condemn what is not quite in the fashion of the moment. In this case, the points of difference are small compared to the points of agreement, and the book will be found highly instructive by beginners, and stimulating by all readers.

B. RUSSELL.

VII.—NEW BOOKS.

The Freedom of Authority: Essays in Apologetics. By J. Macbride Sterrett, D.D., Professor of Philosophy in the George Washington University. New York and London: The Macmillan Co., 1905. Pp. 319.

This volume consists of a series of essays which deal critically and constructively with the problem of authority in religion. Apparently it is meant to supplement an earlier work by the author entitled *Reason and Authority in Religion.* Dr. Sterrett maintains "the reasonableness of a man of modern culture frankly and earnestly worshipping in some form of 'authoritative religion'—in any form rather than in no form"; and in a vigorous and confident way he strives to establish his contention. It was perhaps inevitable that there should be a certain amount of repetition in the book, but it would have gained by compression and careful revision. In the preface, indeed, we are told that the larger part was written "*aus einem Gusse*, almost at a sitting". There is surely some exaggeration here. But one has no difficulty in believing that the book was hurriedly written, though the cause of the haste is not obvious. The author's message at least is not new. Besides containing rather more than the average amount of slips and errors of the press, the volume abounds in clumsy and inaccurate phrases and sentences. Some of Dr. Sterrett's feats in the way of word-construction are remarkable, not to say grotesque. For example, "critics cannot so *disconscious* themselves," "an unuttered *un-outered* essence," "*de-religionising* the Church". But it is right to add that, though the work is destitute of literary form, the author's meaning is seldom or never obscure.

It will simplify matters and give a general clue to Dr. Sterrett's argument, if I say at the outset that his standpoint is frankly Hegelian. The unsympathetic will probably complain that there is a good deal of the ordinary Hegelian rhetoric scattered through these pages. Indeed the disappointing thing about the book is, that the author does not realise that some revision of his speculative theory is necessary in order to deal with his problem in a fresh and fruitful way. Dr. Sterrett of course holds that the real is the rational. Religion, in its development through institutions and creeds, is a phase of objective reason, which under pressure of the immanent dialectic advances to the full expression of its inner nature. In the Christian doctrine of the Incarnation the absolute principle of religion was first consciously realised in time, and the development of the Church is the process by which the idea unfolds its latent riches and meaning. Hence in conforming to some institutional embodiment of Christianity the individual comes under no alien yoke; he is rising to his true self-fulfilment, or freedom, through surrender to an objective or divine Reason: *Deo parere libertas est.* As against the mechanical standpoint of Natural Science and the abstract

procedure of the Understanding, our author stands for the Concrete Reason, of which the Christian Church is a growing realisation.

Perhaps the freshest parts of the book are the two essays in which the writer explains and criticises the views of Sabatier, Harnack and the Ritschlians, and M. Loisy. As the interest here is mainly theological, I confine myself to a few remarks. Dr. Sterrett rightly points out the difficulties which beset Ritschlian theologians owing to their refusal to recognise the constitutive function of reason in religion. And he criticises the tendency of Harnack and others to treat the dogmatic creeds of the fourth and fifth centuries as false accretions which obscured the essence of Christianity. Naturally he objects to this separation of essence and manifestation. Yet I cannot but feel that Dr. Sterrett, in his polemical zeal, is hardly fair to the Ritschlians. He is elsewhere forced to admit that arbitrary and non-essential elements have hampered the development of the Christian idea; and to admit this is to concede that Harnack's method is not entirely wrong, though his results may be too drastic. Again Dr. Sterrett is severe on those Ritschlians who do not accept the miraculous element in Christianity. One could understand this if the critic had made it plain that he himself did so. Yet it is not clear to me after reading the book, that the writer regards the Incarnation and Resurrection as more than outward symbols of spiritual facts or processes. To say that "Historical Christianity was founded on miracles of personality" is not to the point, and would be accepted by almost any follower of Ritschl. Naturally our author has more sympathy with Loisy, who strongly insists on the value and necessity of institutional Christianity. But Loisy is justly censured for the divorce he makes between the judgments of faith, which are the utterance of the corporate Church, and the testimony of history, which is regarded as giving no guarantee for these judgments.

Dr. Sterrett supplements the foregoing critical discussion by an essay on "The Historical Method". His standpoint is strongly teleological, and he shows the defects of those who interpret historic development from a merely material (Buckle) or from an economic basis. But though it be granted that the writer is justified in his protest against the tendency—*e.g.* in Spencer—to construe the more developed through the less developed, yet one finds no adequate recognition of the truth that, when we pass from nature to history, the application of the teleological method becomes vastly more complicated and difficult. The dialectic by which ideas and institutions are supposed to criticise and develop themselves is no sound guide to the historian in the selection and arrangement of his material. And the fact that the "guarantee of the worth and destiny of the finite is only as a member of the total system of the Absolute," is too general and abstract a formula to help him in his valuations. The approach to a Philosophy of History must be on the basis of a broad and a thorough psychology: otherwise speculative theory loses touch with reality. Dr. Sterrett seems to fall into the mistake of hypostatising logical connexion as a kind of self-subsisting principle; and he overlooks the fact, emphasised by Sigwart, that the ground of real connexion in history lies in the consciousness of the individual. The volume, it should be said, contains an essay on "The Psychological Forms of Religion," which are treated under the heads of feeling, thought, and will. But the writer appears to me to show no proper recognition of the function of feeling and sentiment in the religious consciousness. Feeling for him, as for Hegel, is a preliminary stage which must be transcended, and he inclines to regard adequacy of conception as identical with the satisfaction of the spiritual personality. More than once he is guilty of the exaggeration of speaking of *thinking* as in itself a

religious act. *Das Denken ist auch wahrer Gottesdienst.* The truth is that a purely intellectual being would not be religious at all.

In his concluding essay Dr. Sterrett takes up again the problem of authority in religion, and discusses its ultimate basis. As he leaves out of view the ethnic religions, the question becomes, What is the authority of Christianity? A point the author lays much stress on is, the validity and relative rationality of the historic Church and its creeds; and he rightly urges that the individual Christian consciousness is essentially mediated by the historic Christian consciousness. He seems to suggest that the ultimate authority is a fusion of both factors, the subjective and the objective. Yet the weight must fall on one side or the other: and from Dr. Sterrett's standpoint it must be the reason of the philosopher which is the final authority, for he admits the capacity of speculative thought to criticise and translate into a higher form the historic doctrines of the Church. Indeed this is conceded when it is said, "Philosophy gives the highest authority to religion by demonstrating its absolute not merely its psychological necessity" (p. 276). In other words, we justify religion because we can think out its meaning and value in the system of the universe. The writer's faith in philosophy is excessive. Those who start from the same speculative basis as he does come to the most divergent conclusions on the nature of the Absolute and the value of Christian dogmas. Dr. McTaggart's view of the Absolute is diametrically opposed to Dr. Sterrett's, yet both draw their inspiration from the same philosophic source. I venture to think Dr. Sterrett's spiritual Theism is the result of a personal value-judgment rather than the logical outcome of the speculative theory he adopts.

One or two minor points may be noted. Dr. Sterrett is rather fond of speaking of 'Kantian agnosticism,' yet, as he must know, the term is misleading. For Kant held we have a real knowledge of God, though only in a practical regard. On page 64 Paulsen is classified among Ritschlians. This is inaccurate, for though Paulsen has points of contact with the School, he definitely dissociates himself from the Ritschlian hostility to metaphysics. The reference to Aristotle's *Metaphysics* on page 104 should be to book xii., and on pages 102 and 105 common Latin phrases are wrongly given. Though we do not agree with Dr. Sterrett on a good many points, it is but fair to say that he has written a vigorous and interesting book which will repay perusal.

GEO. GALLOWAY.

The Psychology of Beauty. By ETHEL D. PUFFER. Boston and New York: Houghton, Mifflin & Co. Pp. vii, 286.

We have here an interesting book written in an attractive manner. The author believes that with one important modification of Hegel's definition of Beauty the way is opened from the traditional philosophy of æsthetics to a sound psychological theory of the means by which the end of Beauty is attained. That is to say, we might hope "to express the idea to sense" if we could find for it a form-quality, or subjectively, in the phrase of Kant, a form of reflexion. This must be a combination of unity and totality, *i.e.*, self-completeness. An object is absolutely self-complete only—and this is the heart of the author's position—when it produces a self-complete experience for that subject: "The subject should be not a mirror of perfection, but a state of perfection". The author is opposed to the "expression" or "significance" theories of the Beautiful: "The yellow primrose needs not to remind us of the harmony of the universe, or to have any ulterior significance whatever, if it gives

by its own direct simple stimulation a moment of unity and self-completeness". It remains for the author to endeavour to translate unity and self-completeness into psychological terms. The basis of any æsthetic experience, she says, is beautiful through its harmony with the conditions offered by our senses, primarily of sight and hearing, and through the harmony of the suggestions and impulses it arouses within the whole organism. This is the whole essence of Beauty—the possession of a quality which excites the human organism to a functioning harmonious with its own nature. The means of Beauty are the possibilities of stimulation in the motor, visual, auditory and purely ideal fields; its end a moment of perfection, of self-complete unity of experience, of favourable stimulation with repose. A beautiful object possesses the permanent possibility of creating this perfect moment which yields the unique æsthetic emotion. The æsthetic repose is characterised by that loss of the feeling of self which is associated with certain other important experiences—as religious and scientific absorption. It is, as I should prefer to say, simply a case of the most completely implicit attention. Transition, says the author, between the background and the foreground of attention is no longer possible; the self forms one with the object in the foreground, itself an indissoluble unity. There remains the troubled question of the relation of meaning to Beauty. It is not, the author holds, an integral and essential part: The Idea is subordinate—a bye-product unless it can enter into, melt into the form. Visual beauty is first beauty to the eye and to the frame, and the mind cherishes and enriches this beauty with all its own stored treasures.

The author's main position is developed in essays on "Criticism and Æsthetics," "The Nature of Beauty" and "The Æsthetic Repose," and is followed out in detail in other essays dealing with Visual Form, Space Composition, Music, Literature, Drama and Ideas. In dealing with the problem of the presence of Ideas in the work of art, the author denies to Music and Architecture any meaning that is not extraneous. Painting and Sculpture show the first traces of a content, while of Literature ideas are the very material, so that when we speak of the beauty of ideas in Literature we are attempting an artificial sundering of elements that are properly in fusion. As I understand the writer, the Idea can only be integral to the æsthetic effect if we implicitly affirm or accept it, if it in no way disturbs our æsthetic repose. Art that presents a moral ideal against which we rebel is *ipso facto* bad art. Thus literature like that of Thomas Hardy which ignores the freedom of the will fails of beauty. Against such a crude employment of the judgment of value in æsthetics as this I must protest. Who is to judge in such cases? Many highly endowed natures would find perfect harmony and repose in the contemplation of such an idea as determinism. The chapter on Music is very interesting. Rhythm is defined as expectation based on the natural functioning of the attention-period, and as such capable of being brought under the full æsthetic formula of favourable stimulation with repose. It is a good deal harder to follow the author in her effort to bring the Drama under this rubric. The peculiar æsthetic experience connected with the Drama is said to arise out of the tension or balance of emotion in the confrontation of opposing forces. Only in the simultaneous realisation of two opposing forces is the full mutual checking of emotional impulses possible, and the dramatic form gives repose through equilibrium of impulses. Altogether I am left with the feeling that our author's theory works fairly well up to a certain point, and continues to be illuminating throughout on the formal side, but that it begins to prove unsatisfying as form becomes infused with content. The psychological foundation of the work, resting on the extremely doubtful theory

that emotion is identical with its bodily concomitants—". . . set up the bodily changes and the feeling of them and we have the emotion that belongs to them even without the idea" (p. 14)—is not strong enough for a lasting theory of æsthetics. Nevertheless I have read the book with real pleasure and hope others may do so. An English writer disposed to take seriously to the study of æsthetics certainly deserves encouragement.

DAVID MORRISON.

Psychiatry: A Text-Book for Students and Physicians. By STEWART PATON, M.D., Associate in Psychiatry, the John Hopkins University, Baltimore. Philadelphia and London: J. P. Lippincott Co., 1905. Pp. xii, 618. Price 18s. net.

This book, as the title indicates, aims at systematising the clinical study of insanity. The first two chapters, covering the scope of modern methods and the nature of the disease process in alienation, attempt a general orientation of the subject; but they are not entirely successful, being here and there somewhat indefinite. The student may get the impression that "a naïve psychology founded upon theory and speculation" (p. 3) is all that psychology as hitherto studied has to offer,—a somewhat important mistake. But what the author offers is, occasionally, somewhat naïve as psychology, and he fails to recognise that "those morbid conditions of the human body commonly but erroneously described as mental diseases" (Preface) may, according to the point of view, be quite correctly described as mental diseases. The aim of these chapters is to indicate the positively scientific standpoint; but the exposition is rather overloaded with authorities and based upon a rather inadequate analysis. Under the Symptoms of Alienation (chap. iii.) we find a general exposition of "Impairment of the Higher Cortical Functions, as Shown in Defects of Judgment and Intellect," and "fixed or insane ideas"; also disorders of attention, of sensation (including hallucinations), of consciousness, of association, of memory, of volition, of emotion, of conduct. But here again the sequence of topics is not very well maintained and the analysis of the concrete cases is not driven home. There are many good paragraphs, but the general impression is somewhat confused. Chapter iv., on the method of examination of patients, is on the whole well done. Chapter v., on the treatment of alienation, omits nothing of importance. The paragraph on "Mental Treatment" (suggestion) is inadequate. Chapter vi., on Hospitals, gives some general directions. Among the causes of insanity (chap. vii.) are enumerated heredity, environment, imitation and suggestion, sex, age, education and fatigue, trauma, etc., as in most text-books. The chapter contains little that is new; but, as in all the more recent text-books, toxic influences of every kind receive special attention. The provisional clinical grouping of mental diseases (chap. viii.) frankly gives up any attempt at scientific classification. As the author becomes more clinical, he becomes much more definite and adequate. There is a good chapter on the defect psychoses (chap. ix.), another on fever psychoses—the deliria, auto-intoxications, confusional insanity, etc.; another good chapter on chronic intoxications—alcoholism, morphinism, etc. Chapter xiii. deals with the "Manic-depressive group," a name that indicates the more modern view of so-called "mania" and "melancholia". The Dementia Praecox group is dealt with in some detail; but here, as in the Paranoia group (chap. xx.), it is extremely difficult to "delimit the frontiers" where the mental variations are so elusive, and the author has to rely, after all, more on purely mental symptoms than on any precisely ascertainable physical

condition. The chapter on Paranoia, particularly, is somewhat vague. The chapter on Dementia Paralytica, with its varying types and stages, is well done. Short sections are given to hysteria, neurasthenia, psychasthenia and the senile psychoses. There is an excellent index. The references are copious and fully given at the foot of the pages. Apart from the somewhat vague sections referred to, the book forms an interesting introduction to a vast department of study. There are some excellent micro-photographs of cortical sections.

W. Leslie MacKenzie.

Thought Transference: A Critical and Historical Review of the Evidence for Telepathy, with a Record of New Experiments, 1902-3. By Northcote W. Thomas, M.A. London: De La More Press, 1905. Pp. viii, 214.

Crystal Gazing, Its History and Practice, with a Discussion of the Evidence for Telepathic Scrying. By the same. With an Introduction by Andrew Lang, M.A., LL.D. Pp. xlvii, 162.

These are the first two of a series of small volumes in which Mr. Thomas proposes to sum up in an easily available form the evidence collected since the foundation of the Society for Psychical Research in regard to such subjects as thought-transference, crystal-gazing, ghosts, etc. The volumes will deal with the evidence "critically but sympathetically," and their main purpose will be "to show what a reasonable man without bias in either direction may regard as proved" (Preface). The two before us are arranged on the same plan. An attempt is first made to combat prejudices (or what the author regards as such) which would largely discount the value of the whole inquiry beforehand. Next an explanation is given of the subject of inquiry and the relevant technical terms of "psychical research," such as subliminal, hallucination, illusion, etc. Finally the greater part of the volume is devoted to a statement of the evidence, historical and experimental, for the phenomena under discussion. Of the two volumes, that on *Thought Transference* is the more important. As regards crystal-gazing the lack of exact experimental evidence has apparently constrained the author to fill up with more loosely recorded experiences, which are of disputable value, and a collection of historical notices, which are of little interest to the general reader. In fact, unlike Mr. Lang, whose interesting Introduction to the volume concerns itself with crystal gazing proper, Mr. Thomas seems to attach more importance to its telepathic aspect. As regards thought transference, on the other hand, there is much more experimental material to report and discuss. And yet here, too, even the prejudiced reader, who expects little, can hardly but be surprised by the very meagre quantity and poor quality of the evidence offered. Mr. Thomas's own "sympathetic" treatment of the evidence does not carry him beyond the conclusion that "much more effort, and, in particular, much more systematic effort, is needed before we can safely assert that telepathy is a proved fact" (p. 176). And in view of this one cannot but think that he does less than justice to the reasonableness of the ordinary unbeliever's attitude in the matter. Apart altogether from *a priori* considerations of a metaphysical nature, we must at any rate try to maintain some sense of proportion. And when we are told that "we cannot demand more evidence for thought transference than we do for ordinary transmission of thought [by speech]" (p. 203), it is difficult to take the comparison seriously. By *more* evidence the author doubtless means evidence of a different kind. But even so the warning seems rather uncalled for.

The Problems of Philosophy. By HAROLD HÖFFDING. Translated by Galen M. Fisher, with a Preface by William James. New York and London: Macmillans, 1905. Pp. xvi, 201.

In this interesting little volume the well-known Danish philosopher ranges himself decisively among the champions of that forward movement in science and philosophy which is now making its force felt throughout the world. The significance of this accession is pointed out in the short preface to the English translation (presumably from the German, though this is not stated) of Prof. Höffding's work, in which Prof. James summarises its aim and extracts its pith with masterly lucidity and precision. Prof. James's preface indeed so admirably performs the function of the appreciative criticism which Prof. Höffding's work so well deserves as really to render superfluous any further review from a standpoint so nearly identical with his own, and so much in sympathy with Prof. Höffding's as mine is bound to be. I feel myself therefore reduced to the seemingly ungracious procedure of discovering spots in the sun and of touching (lightly) on the points where Prof. Höffding's treatment seems to fall short of perfection.

The contention which guides Prof. Höffding's whole survey of the philosophic field and is perseveringly worked out in his discussion alike of the problems of consciousness, of knowledge, of being, and of values, ethical and religious, is that in no case do our problems admit of complete unification, does the antithesis between the claims of continuity and discontinuity admit of being resolved into a stable harmony. This contention, as Prof. James points out, suffices to stamp Prof. Höffding as an empiricist and a pluralist and an adherent of the 'ever not quite' view of reality and thought, even though he may still prefer to describe himself for academic purposes as a 'critical monist'. Certainly the criticism must be admitted to preponderate over the 'monism' in a philosophy which adopts the pragmatic conception of truth pp. 81-84 and unreservedly acknowledges the reality of time (pp. 107, 136, 195, etc.) and the incompleteness of reality (p. 120) and of knowledge (p. 137).

Indeed, if anything, Prof. Höffding, like Prof. James, carries too far the recognition of the 'irrational remainder' (p. 85), which all rationalisms are so desperately anxious to ignore. At heart few irrationalisms are as unreasonable as a thorough-paced rationalism, and it is only when 'reason' has been degraded into the merest catchword that the evidences of the inadequacy of rationalism can be interpreted as proofs of cosmic irrationality. Nay, I venture to suggest that even 'discontinuity' is not as such a token of irrationality, and that it may betoken the joyous exuberance of health when a universe takes to jumping instead of crawling. The 'discontinuities' which torment us and are what Prof. Höffding really means to refer to, are of a very different kind. They are the painful jolts and crushing catastrophes of the course of nature, and it is only by a very euphemistic and intellectualistic meiosis that they are described as 'discontinuities' at all. In plain English they are *evils*, and they are intellectual problems only because they are first of all moral problems. If then there really is something wrong about the universe of our experience, it is folly to attempt to conceal the fact under a veil of intellectualistic phrases, and a 'monism' which attempts this is not 'critical' so much as hypocritical. Prof. Höffding, however, is far too honest to stain his conscience with such subterfuges; he admits quite frankly that something is wrong, and consequently his selection of the antithesis between continuity and discontinuity as the deepest in the universe strikes one as a little incongruous and inadequate. Surely it is the distinctions

of value, and more especially that between 'good' and 'evil,' which rend the universe in twain from end to end, and render a real monism such a pathetically unreal view of life.

The smoothness of the translation deserves a word of praise, and I have discovered only one (a curiously amusing) error. On page 168 we read that "history is the great voting place for standards of value". But history, unfortunately, still displays a barbarous predilection for breaking heads instead of counting them, and so the German *Wahlstatt* (or its Danish equivalent ?) still means a *battlefield* and not a *voting place!*

F. C. S. SCHILLER.

The Unit of Strife. By E. K. GARROD. London: Longmans, Green & Co., 1905. Pp. i, 194.

The aim of this work is to discuss how far similarity of conditions characterises development in the merely animal and in the human sphere; and how far evolutionary conceptions fail to explain the facts of human society. The problem is not a new one, nor can any substantial novelty of treatment be discovered. The opening chapters—perhaps the best part of the book—show how the "unit of strife" has been successively the single cell, the individual organism, the family, the tribe, the nation; and that development throughout depends on differentiation and co-operation, "the fittest unit at all times being the most cohesive and extensive" (p. 67). This *résumé* of current biological doctrine serves as an introduction to the main purpose of the author—to explain the distinctive character of human progress. The reason, after the work *e.g.* of Green, Ritchie and Fouillée, one might have thought 'an old story,' and one is therefore surprised to find that the suggestion tentatively offered with a (modestly expressed) conviction of its novelty (pp. 5, 180) is "the development of an abstract consciousness" (p. 33) (why abstract ?) through which man gains a knowledge of nature, of the conditions of development, and acquires the power of consciously adapting means to a conceived end. But according to our author the influence of mind on conduct is mainly "evil". It perverts the natural instincts which "when unconcerned with mind, work . . . sanely to their end" (p. 72)—the unity and cohesion of the whole—and introduces or exaggerates disruptive qualities. This doctrine is enforced in a passage of amazing rhetoric, which is typical of the author's style: "The instincts of self-importance and self-gratification feed and fatten on thought, and grow to hideous proportions. Cruelties and lusts come into being which, with agile minds to conceive them and sensitive minds to suffer them, degrade man far below the level from which he began his upward course, and compel the imagination to conceive of hells, peopled by similar degraded beings, where punishments suitable to such offences may hereafter be enforced" (p. 72). The social tendency, in spite of the remarks on "sympathy" (p. 52), is therefore not natural. (We are thus thrown back to the days of Hobbes, and the progress of thought is as if it had not been.) The "morbid influence of mind" (p. 170) has to be counteracted by a "Force *from without* man," and so Religion—belief in God, the "Power at the back of law" (p. 84)—enters as a *deus ex machina* to supply the condition of social unity against which mind continually battles.

Such a doctrine hardly deserves serious consideration. An erroneous psychology which assumes as absolute the antithesis between religion and reason, and a perversion of history which makes religion the one and unfailing principle of unification, are strange foundations on which to rest a Sociology. The teaching of the Greeks and of modern Idealists that Reason is the 'Source of the idea of a Common Good' has ap-

parently no significance for the popularisers of Comte and readers of Mr. Benjamin Kidd, whose influence in the present volume is supreme.

The superstition which hypostatises or deifies laws of nature—a relic of primitive Animism—(*cf.* Ritchie, *Philosophical Studies*, p. 105) is certainly not to be expected in any serious work. Yet the author apparently regards such laws (*e.g.* Natural Selection) as "Powers" or "Agencies" which "operate from beyond the world" (p. 34) and force things into obedience with their will. Ordinary forms of language may be responsible for much, but when we read about the "leverage of the Force" and the "arm of the lever" (p. 81) a suspicion arises that we have passed from an apparent confusion due to language to a very real confusion in thought.

JOHN SIME.

Life and Matter: A Criticism of Professor Haeckel's "Riddle of the Universe". By Sir OLIVER LODGE. London: Williams & Norgate. 1905. Pp. viii, 200.

The Interpretation of Nature. By C. LLOYD MORGAN, LL.D., F.R.S. Bristol: J. W. Arrowsmith; London: Macmillan & Co., 1905. Pp. 164.

These little books deserve to be widely read, above all among those who, without any special scientific knowledge, are yet intensely and intelligently interested in the conclusions of men of science regarding the ultimate nature of reality. They ought to prove a wholesome corrective to such precipitate efforts at simplification and unification as that of Prof. Haeckel, efforts which, as Sir Oliver Lodge says, not only underestimate some classes of fact, but also stretch scientific theory into regions of mere guesswork where it loses touch with real science altogether. Some may think that Sir Oliver Lodge is not altogether free from the latter defect himself; but his book remains a calm and weighty protest against the grim attempt to sacrifice the reality which is best known and most precious to us on the altar of methodological assumptions. Sir Oliver Lodge upholds the view that Life is neither matter nor energy, or even a function of matter or energy, but something belonging to a different category; that by some means at present unknown it is able to interact with the material world for a time, but that it can also exist in some sense independently, although then not apprehensible by our senses. Its essential existence is continuous and permanent: its interactions with matter discontinuous and temporary. Moreover he conjectures that it is subject to a law of linear advance. Except in the last particular, he considers magnetism to offer the best analogy to life: we now know that electrically generated lines of force need no matter to sustain them, although they need matter to display them. This is held by Sir Oliver as a working hypothesis, the only one which enables him to fit the known facts of vitality into a thinkable scheme. Dr. Lloyd Morgan seeks to prove that the conception of *purpose* is for rational thought not less valid than that of mechanism. If purpose underlies and rationalises our thought and experience, it must underlie the perceptions of daily life and the conceptions of science in their objective reference. His own experience assures him that there is a causal agency underlying the sequence of mental configurations; that there is something within him which unifies and relates and orders them. This is what he understands by *purpose*, and utilises in the interpretation of nature as an ideal construction founded on experience. If one believes that, in the purpose which unifies, directs and determines the course of

his own experience there is a real causal agency, he cannot escape the conviction that it is in constant relation to a wider purpose of the same order of being, but free from his limitations. It is the aim of Dr. Lloyd Morgan to show that a belief in purpose as the causal reality of which nature is an expression is not inconsistent with the full acceptance of the explanations of naturalism within their appropriate sphere. He admits, nay, contends, that the existence of such a unifying agency is not a scientific conception: it is not a phenomenon though manifested by phenomena. It is, if you will, a postulate of reason, a regulative principle, as valid for rational thought as mechanism. Determinism is purpose finding expression in determinate sequence; and, just because he believes that all that science discloses is the manifestation of a continuous purpose, he believes that the manifestation is itself continuous, and the origin of life and mind ideally capable of explanation in terms of antecedence, co-existence and sequence. Both writers regard Life as a directive force, but while Dr. Lloyd Morgan, accepting the concomitance of the ideal constructions of physiology and psychology, sees no objection to an all-embracing mechanical interpretation, Sir Oliver Lodge asserts that no mechanical analysis can be complete and all-embracing. Guidance and control are not forms of energy, or phantom modes of force, and their superposition upon the scheme of physics need perturb physical and mechanical laws no whit. It is only necessary to recognise that the laws of physical science are *incomplete*, when regarded as a formulation and philosophical summary of the universe. Their determinateness is got by the sheer assumption that no undynamical or hyperdynamical agencies exist. For him Life and Mind are outside the scheme of mechanics. It is, moreover, simply untrue to say, as Haeckel does, that the modern physicist has grown so accustomed to the conservation of matter that he is unable to conceive the contrary. It is quite easy to conceive the identity of the electrons lost, so that the destruction and even the creation of matter are well within the range of scientific conception, and may be within the realm of experimental possibility (p. 33). Monism must not signify a limitation of mind to the potentialities of matter as we at present know it.

In detail Dr. Lloyd Morgan is extremely interesting. He would restrict the term "intelligence" to the guiding factor in behaviour as the result of experience when it falls within what Dr. Stout calls the perceptual sphere. Just as the instinctive factor provides data which intelligence deals with so as to shape it to more adaptive ends, so does the perceptual factor provide the more complex data which, through ideational process, are raised to a yet higher level in rational conduct, where a situation is developed, not only in accordance with the impulse value arising therein, but also, and in a greater degree, in accordance with the motive worth for a system. And he argues that to this should correspond a further differentiation within the control system itself. The Tenth Division of his book in which this subject is discussed is particularly well worth reading.

DAVID MORRISON.

Optical Illusions of Reversible Perspective: A Volume of Historical and Experimental Researches. By J. E. W. WALLIN. Profusely illustrated. Published by the Author, Princeton, N.J., 1905. Pp. vi, 331. Price $1.85 (paper), $2.25 (cloth).

The central portion of this book consists of a report of experiments on perspectivity in momentary exposures (with student observers) and on the

effect of suggestion upon perspectivity (with school-boy observers) made by the writer at Clark University. Other and later experiments are concerned with the effect of practice on perspective presentations, the duration and alternation of perspective reversions, the distance equation of black and white rods, the influence of continued fixation, etc. An elaborate historical review has been prefixed to the experimental studies; and the book ends with a chapter on theory, in which the psychophysical or 'perception' theory is upheld against the psychological theory of 'judgment'.

The author's aim, throughout, is completeness. The historical survey "purports to be an exhaustive digest of all that has been said and done along (*sic*) the subject treated"; "the utmost historical fidelity is attempted" and the treatment is strictly chronological. So with the experiments: "the attempt has been made to give full *Tables*, rather than mere excerpts, summaries, 'typical,' 'general,' or 'representative' values". While the present reviewer must confess to sympathy with this point of view, he cannot but feel that the writer, in his adoption of it, himself shows a lack of perspective. The five historical chapters, for example, bring together materials which, after all, are for the most part easily accessible to any one who wishes to find them, but which might, in large measure, remain buried without any special loss to psychology. Besides, no summary, however complete, can take the place (except for its author) of recourse to the original literature: it is the workers at secondhand who will profit by these chapters. Where, on the contrary, completeness would be really valuable—in the writing out of introspections and in the correlation of the experimental results with earlier observations—the book confessedly falls short (pp. 96 f.).

The author has been obliged to publish at his own expense: which means, presumably, that publishers' readers have adjudged the work to be unsaleable or scientifically inadequate. The former, no doubt, has been the motive which determined rejection. But there can also be no doubt that the writer would have done better, first, to print his experimental records in some technically psychological journal, and then to work up his final chapter, in the light of his historical knowledge, into a separate article or possibly into a small book. This chapter contains good work, constructive and critical, and with aid from the initial chapters might have been made extremely interesting to the general reader. While, therefore, the reviewer heartily admires the pluck and determination with which Dr. Wallin has worked, he cannot approve the judgment shown in the chosen mode of publication.

E. B. T.

Biographic Clinics, vol. iii. : *Essays Concerning the Influence of Visual Function, Pathologic and Physiologic, upon the Health of Patients.* By G. M. Gould. Philadelphia: P. Blakiston's Son & Co., 1905. Pp. viii, 516.

The first two volumes of Dr. Gould's *Clinics*, reviewed in Mind, xiii., 130, 432, attempted to show that the ill-health of certain distinguished men was the direct effect of eye-strain. The present volume contains two further studies of this kind, devoted to J. A. Symonds and to Taine; but the greater portion of the book is made up of papers, reprinted from medical magazines, in which the author's views are confirmed by illustrative cases, the theories of opponents are examined and their objections met, and recommendations are offered in matters of school hygiene. A newly written Introduction sums up the evidence to 1905. Then follow articles on the new ophthalmology and its relation to general medicine,

biology and sociology; the history and etiology of migraine; the optic and ocular factors in the etiology of the scoliosis of school children; visual function the cause of slanted handwriting—its relation to school hygiene, school desks, malposture, spinal curvature and myopia; dextrality and sinistrality; the pathologic results of dextrocularity and sinistrocularity; subnormal accommodation and premature presbyopia; the reception of medical discoveries; some problems of presbyopia. There are two appendices, on suggestions as to postmydriatic refraction tests, and a case of 'mathematically perfect' eyes; and papers are included by Mr. S. Snell, Professor of Ophthalmology, University College, Sheffield, on eye-strain as a cause of headache and other neuroses, and by Mr. C. E. Pronger, ophthalmic surgeon to the Harrogate Infirmary, on slight errors of refraction and their influence on the nervous system. The reprinting of articles involves a good deal of repetition, which extends even to the figures inserted in the text: but the repetition of a sound argument in different contexts is no bad thing in itself, and may, in the present instance, serve to carry conviction to the reader. The three volumes, supplemented by general reading in the medical magazines, have convinced the reviewer that Dr. Gould has, in the large, made out his case. And those who still raise the cry of the specialist's hobby should remember that, even if but one-tenth of what Dr. Gould asserts is true, his proof of that tenth constitutes a heavy indictment of current medical practice, while its neglect is curtailing the best work of the world in science and letters.

E. B. T.

Psychology for Music Teachers. By HENRY FISHER, Mus. Doc. Cantab. London: J. Curwen and Sons. Pp. 181.

This book would have been better if its author had attempted less. In order to bring the methods of teaching music into line with scientific principles, Dr. Fisher has studied some modern books on psychology. And his practical hints show that he has profited by his reading. If he had been content to map out a scheme of teaching by which the pupil is led from percept to concept, from sense-impression to symbol, and from symbol to interpretation; by which the processes of Analysis and Synthesis are employed in the upbuilding of musical knowledge, and the acquirement of practical skill; by which the simple leads to the complex, and habituation is seen to result in nimble facility, he would have performed a service which is probably needed.

But for an introduction to psychology it would have been better that he had recommended to his pupils a recognised text-book. He has been able to profit by his own reading in the subject sufficiently to see the lines on which teaching should proceed, but certainly not enough to justify him in writing about psychology. This is clearly shown by sentences like the following: "Not until (atmospheric vibrations) have been received into the mind, where, by means of the auditory nerve, they are transmuted into sound, do they become subjective" (p. 12). "It is only when the sensation of light is impressed upon the mind that it becomes subjective" (p. 12).

His experience has however enabled him to supply us with at least one interesting fact. "There is a peculiar form of stammering which is displayed by a considerable number of pupils. It consists in the striking of a note several times instead of only once. As a rule, pupils are quite unconscious of this fault." The book contains a great deal of loose talk, which tends to conceal much that is valuable. It is another proof that "the cobbler should stick to his last".

JOHN EDGAR.

Psychology: An Exposition in Popular Form, Designed for the Use of Students and of Readers in General. By ALFRED COOK, Ph.D. New York: Hinds, Noble and Eldredge.

The quality of this book may be illustrated by the quotation of its first paragraph: "It is a curious fact that we exist on this earth as part mind and part body, a fact not sufficiently taken into account. More curious still, the body is a machine of the mind by means of which the mind has sensations. What, then, are sensations? Nervous tinglings in the mind whereby it has intimations of things." The most striking feature of the book is the number of platitudinous remarks and illustrations, *e.g.*, "If we try to accomplish too much, like the boy who put his hand into the jar of filberts and grasped so many that he could not get it out, we accomplish nothing. It is known that if one learn but five words a day he will in two years learn three thousand," or again, "Learning a vocabulary is like going over a mountain—step by step we approach the other side, but we cannot jump over the mountain". The author is not content to attempt to expound the accepted doctrines, he aspires to originality, *e.g.*, he bases his chapter on memory on the great principle of multiplicity, the principle that "it is harder for us to remember many things than a few," apparently regarded as a new discovery of some importance. It is to be hoped that no one will be so misguided as to spend his time over this book when so many infinitely better books on psychology are in the market.

W. McD.

Congrès International de Philosophie, 2me Session, Tenue à Genève du 4 au 8 Septembre, 1904. *Rapports et Comptes Rendus.* Publiés par les soins du Dr. ED. CLAPARÈDE, Secrétaire Général du Congrès. Avec 17 figures et 5 portraits hors texte. Genève: Henry Kündig; London: Williams & Norgate, 1905. Pp. vii, 974.

It must suffice to give here an indication of the varied and valuable contents of this large volume, which contains all the papers, except four, actually read at the Congress, and, in addition, some half-dozen written for it but not actually delivered. The opening address by Prof. J. J. Gourd, the President, was followed by one from the honorary President, Prof. E. Naville, who selected as the abiding problem of Philosophy the one formulated by Aristotle: how to admit the plurality given by the senses along with the unity conceived by the reason. Under the heading "Séances Générales" we have the following papers with an indication of the discussion which followed them: Prof. Boutroux, "Rôle de l'histoire de la philosophie dans l'étude de la philosophie". The study of the history of philosophy may awaken philosophic ability, and teaches the individual to unite his thinking with universal thought. Prof. Ludwig Stein, "Was heisst Philosophie?" It has to discover and systematically present that unity of nature and spirit of which other sciences have only a partial insight. Prof. J. J. Gourd, "La définition de la philosophie". Prof. Windelband, "Die gegenwärtige Aufgabe der Logik und Erkenntnislehre in Bezug auf Natur- und Kulturwissenschaft". Increasing importance of the science of history. History is only possible as a science if there are universally valid values which contain the ground for the selection and synthesis of facts. Prof. Vilfredo Pareto, "L'individuel et le social". Prof. J. Reinke, "Der Neovitalismus und die Finalität in der Biologie". What Mechanism proclaims as a dogma is to

Neovitalism a problem. Mechanical processes in organisms are held together, not to say governed, by final active forces, comparable to the spiritual forces of men. Prof. Alfred Giard, "Néovitalisme et Finalité en Biologie". Critical of Reinke. Under the heading of "Rapport présenté à la section de Philosophie Appliquée," we have from Prof. Boistel, "Conception des personnes morales". The "Travaux des Sections" comprise (1) "Histoire de la philosophie," (2) "Philosophie générale et psychologie," (3) "Philosophie appliquée," (4) "Logique et philosophie des sciences." (5) "Histoire des sciences". (Being the Third International Congress of History of the Sciences.) Among the papers read in the various sections were the following: (1) Prof. Straszewski, "Méthode comparative dans l'histoire de la philosophie"; Prof. C. Piat, "Les idées dans les dernières dialogues de Platon"; Prof. Bovet, "Louis Bourguet, son projet d'édition des œuvres de Leibniz"; Prof. Geijer, "La sagesse du docteur Bonhomme" (a study of the philosophy of Gustave de Léopold); Dr. Anna Tumarkin, "Kants Spiel der Kräfte"; Prof. Windelband, "Fichte und Comte"; M. Xavier Léon, "Fichte contre Schelling". (2) Prof. Couturat, "Rapport sur les progrès de l'idée de la langue internationale"; Prof. Strong, "Quelques considérations sur le panpsychisme"; Dr. J. Cohn, "Anschauung und Begriff"; Prof. Bergson, "Le paralogisme psychophysiologique"; Prof. Rauh, "Sur la position du problème du libre arbitre"; Prof. Peillaube, "La détermination des éléments de la vie consciente"; Prof. Gheorgov, "Die ersten Anfänge des sprachlichen Ausdrucks für das Selbstbewusstsein bei Kindern"; Prof. Alexander, "Die Einheit des Seelenlebens und seine verschiedenartigen Ausserungen". (3) M. Lapie, "Technique et Téléologie", Prof. Grotenfelt, "Die Massstäbe der geschichtlichen Wertschätzung"; M. Aars, "Les idées morales et l'hérédité antimorale"; M. Darlu, "Sur l'état dans la démocratie"; Dr. Karmin, "Sur la terminologie des doctrines politiques et sociales". (4) M. Fehr, "Sur la fusion progressive de la logique et des mathématiques"; Prof. A. Naville, "La notion de loi historique"; Prof. Milhaud, "Note sur l'idée de science"; Prof. Couturat, "Sur l'utilité de la logique algorithmique"; M. Pierre Boutroux, "Sur la notion de correspondance dans l'analyse mathématique"; Lieutenant-Colonel Hartmann, "Définition physique de la force". (5) M. Jules Tannery, "Paul Tannery"; Paul Tannery, "Les Cyranides"; Dr. Erich Schmidt, "Deutsche Volkskunde im Zeitalter des Humanismus und der Reformation"; Karl Sudhoff, "Neuere Wertungen Hohenheims"; Prof. Zeuthen, "Théorème de Pythagore: Origine de la géometrie scientifique"; Prof Duhem, "De l'accélération produite par une force constante: notes pour servir à l'histoire de la dynamique"; M. V. Mortet, "Géometrie pratique au moyen age"; Prof. Lebon, "Pour l'histoire des hypothèses sur la nature des taches du soleil".

La Logique des Sentiments, par Th. Ribot. Paris: Félix Alcan, 1905. Pp. x, 200.

This is a characteristic work. Clear-sighted observation and an extraordinary lucidity in the exposition of details are combined with a somewhat faulty logical scheme together with something unsatisfying in the way in which ultimate problems are handled. The opposition throughout of *la logique affective* to *la logique rationelle* produces an artificial antithesis which is, on the whole, misleading. In spite of our author there are *not* two logics in existence. The distinction might have been much better expressed as that between logical and emotional inference; or the essay might have been styled 'the predominance of emotional

over logical interest in reasoning'. The subject is one of great importance for psychology. The logician merely brings down a particular fallacy and displays it alongside of the other offenders of its species; to the psychologist is left the natural history of the sophism. Moreover the actual confusion of thought which would lead any one to advance a fallacy as a logical proof is not of primary interest and is indeed not discussed by M. Ribot. He describes rather what Mill called the moral causes of error in reasoning; to be more accurate, it is the influence which leads us to adopt a particular conclusion quite apart from any interest we may have in its logical validity. The phenomena discussed, though not grouped according to any very satisfactory principle, are in themselves interesting. Thus we find an account of the effect which a state of passion, *e.g.* fear, produces on the process of inference; the phenomena of conversion and of the transformation of emotions are also described, together with the habit of justifying, on apparently logical grounds, a belief held really on account of the emotional satisfaction it affords.

M. Ribot talks of emotional reasoning as effecting itself by means of a series of judgments of value: 'values' are the middle terms of the logic of the emotions. But to compare these to a series of middle terms in syllogistic reasoning is only confusing; the 'judgment of value' must rather function as a single axiom over-riding all others and allowing us to draw conclusions agreeing with it alone. The final problem, as to why certain beliefs should cause a specific emotional satisfaction, M. Ribot does not discuss.

He includes a chapter dealing with a subject which, as is admitted, has little to do with reasoning, namely the productive imagination. Here it is claimed that the imaginative creation of emotional states is possible, that it forms the basis of musical composition and is the essence of mystical religion.

G. R. T. Ross.

Die Aufgaben des Mittelschullehrers. Von Prof. Dr. Wilhelm Jerusalem. Vienna and Leipzig: Wilhelm Braumüller, 1903. Pp. 64.

Dr. Jerusalem has already written several books on Psychology and Pedagogy. In this pamphlet he gives the mature thoughts of a cultured and experienced teacher on the work and function of the Secondary School. The Mittelschule of Austria holds a position similar to the Gymnasium in Germany, and the best type of Secondary School in this country. As its name implies it comes in the educational system between the Elementary School and the University, and naturally leads up to the latter. In this class of schools the teacher must be a highly educated man, and his task is here considered from three points of view —(1) the scientific; (2) the pedagogic-didactic; (3) the social.

I. Dr. Jerusalem shows under the first how in every branch of study the scope is extending. It is the duty of the teacher to keep himself by continuous study abreast of progress in his own and cognate departments, but it is impossible with the time at his disposal to do original work and be a producer. Scientific work has a receptive and a productive side. Original investigation is the sphere of the University Professor, but for the teacher of the Middle School the receptive side of scientific work is more important than the productive.

II. Every subject of instruction has its own independent didactic task. And every type of school has its special function. The elementary school equips all its pupils with such a minimum as will make them

better fitted for the working duties of life. The University "gives its students freedom to work or not as they please".

Between these two extremes comes the Middle School, and its fundamental pedagogic task must be to train its pupils to *independent intellectual work*. The further the pupils advance the deeper must be their feeling of responsibility. In this habituation to independent work and responsibility lies not only a sure guarantee that the scholars will learn, but also a moral influence of the highest importance. There can be no better endowment for a future career than habituation to regular work, and a sense of responsibility for its success.

III. As the curriculum of these schools is practically fixed by the state, the teacher has no direct influence in deciding what the future clergymen, doctors, lawyers and teachers must learn. But he is chiefly responsible for the way in which the pupils go through the curriculum, and his judgment decides as to their fitness for a leaving certificate. It is because of his responsibility in deciding as to ripeness or unripeness that the teacher becomes an instrument of social selection. "The intellectual and moral development of the future generation will depend upon the conscientiousness and wisdom with which he performs this social selection."

His social influence may also be shown in the manner and degree with which he inspires his pupils with the social spirit, and leads them to understand that every one of them is to-day born into a cultivated social organism. To this his life owes much, and therefore he is debtor for consecration of his time, ability and service to the public interest, and to social progress.

JOHN EDGAR.

Beiträge zur Einführung in die Geschichte der Philosophie. Von RUDOLF EUCKEN. Leipzig: Dürr'sche Buchhandlung, 1906. Pp. 192. Price 3s. 9d.

This is a re-publication of the author's *Beiträge zur Geschichte der neueren Philosophie* which appeared in 1886. All the essays have been revised and brought up-to-date; those on 'Trendelenburg' and 'Parteien und Parteinamen in der Philosophie' have been changed considerably. Two altogether new essays are now added. The first, on 'Bayle and Kant,' shows that Bayle was not a pure Sceptic and never abandoned himself wholly to the doctrine of the 'relativity of truth,' but, on the contrary, shows affinities with Kant's critical philosophy. Thus, in his theoretical philosophy, he recognises to be inherent in reason many of those contradictions which Kant afterwards called the 'Antinomies,' though he did not, like Kant, supply a solution. In practical philosophy he is, like Kant, an opponent of Empiricism and Utilitarianism.

The second new essay on 'Gedanken und Anregungen zur Geschichte der Philosophie' suggests a number of points of view from which fresh light might be thrown on the history of philosophical systems (*e.g.* the influence of metaphors, technical formulæ, parties and partisanship, etc.). And above all, history must not be a mere collection of facts, but we must have a central principle to serve as connecting link and put all the facts in their proper light. This principle Eucken takes from his own philosophy, and in this connexion gives a short, but admirable and illuminating account of his own point of view (pp. 156-169) which distinguishes a 'technical' and a 'personal' method in philosophy, and regards philosophy in the latter sense as concerned with the building-up of a spiritual reality.

R. F. A. HOERNLÉ.

Grundbegriffe der Kunstwissenschaft. Von A. SCHMARSOW. Leipzig: Teubner, 1905. Pp. x, 350.

Dr. Schmarsow's book is of more interest to the student of the history of art, than to those interested in its psychology or in philosophical æsthetics. His general standpoint, not without divergence in matters of detail, is that of Alois Riehl, in his *Stilfragen* and *Beiträge zur Aesthetik der bildenden Künste*, who sees in the work of art "das Resultat eines bestimmten und zweckbewussten Kunstwollens, das sich im Kampfe mit Gebrauchszweck, Rohstoff und Technik durchsetzt". The psychological treatment, which is to be found in chapters iv. to vii. is slight, and is concerned mainly with symmetry and proportion, composition, and rhythm, without making any addition to what has already been written on these subjects. This is of course to be expected in a work professedly only applying what general æsthetic principles have been established to the explanation of the evolution of art-forms. The arts studied are almost entirely sculpture, painting and architecture, and the treatment of the historical relations of these, though again necessarily slight, is perhaps the best thing in the book.

A. R. BROWN.

Logica Formale dedotta dalla considerazione di modelli meccanici. By ANNIBALE PASTORE, Libero docente di Filosofia teoretica nella R. Università di Genova. Torino, 1906. Pp. xxiii, 258.

In this work mechanical models are constructed on a plan which is intended to make the models work for valid moods of the syllogism and not for invalid moods. The author recognises that the syllogism is not the whole of symbolic logic, and regards his present work as merely a beginning. The models are ingenious and simple, but they work in some cases not commonly admitted as valid, for example 00A in the fourth figure. There is a discussion of these cases which is rather hard to follow; the upshot seems to be that they are valid under certain limitations, and that it is as well the models should admit them. The author sums up his results as follows (p. 249): "In substance, I have proved that the method of ideophysical models has its fertile use, in the examination of logical facts, both as an instrument of demonstration and as an instrument of research. It cannot be denied that the investigations made with the help of models have in many cases not only reconstructed, but rectified and completed the theory of logical relations, with an exactness unknown to the ordinary teaching. Since, therefore, direct proof shows that, by the construction and the very simple working of an apparatus (an experimental model) we do the same thing which might be done less conveniently by reasoning or calculation (a rational model), it follows that the facts which compose the abstract theory may be held to be justified experimentally." We are left in doubt as to how a person who would not assume the elementary principles of deduction could assure himself that his models must illustrate these principles and must work in a certain way. For this reason, the theoretical importance of a logical machine cannot, it would seem, be as great as Dr. Pastore supposes. His view on this point, it should be said, is supported by a general philosophy which is set forth in the first part of the book.

B. RUSSELL.

Proceedings of the Aristotelian Society, New Series, Vol. V., containing the Papers read before the Society during the Twenty-sixth Session, 1904-1905. London: Williams & Norgate, 1905. Pp. 188.

The volume opens with a paper from the President, the Rev. Dr. H. Rashdall, on "Moral Objectivity and its Postulates," which contends that our moral ideas must be regarded as more or less adequate revelations of the divine standard of values, and that there can be no real harmony, or perfection, or absence of contradiction in any system of the universe in which our highest ideals of value are contradicted. To other postulates of an objective morality, he should like to add the negation of an unqualified optimism. The natural inference from our actual ideals and experience is a belief in a God who wills the good (as we inadequately and imperfectly know it) but does not wholly attain it. Mr. Henry Sturt finds "The Line of Advance in Philosophy" to lie along a fuller recognition of the importance of striving in human experience, and of the self as a creative force able to strive with a world of forces, growing thereby increasingly self-conscious and purposeful. Mr. W. R. Boyce Gibson deals with "Self-Introspection," contending that we must accept the point of view of the experient of self-consciousness. Self-consciousness, as the true and ultimate form of psychical observation, is the self's observation of itself as such; it is not a relation between subject and object, but the existential oneness of the subject that knows and of the subject that is. The bearing of this analysis on the starting-points of Descartes and of Hegel is discussed. Mr. J. L. McIntyre's paper on "Value-Feelings and Judgments of Value" is an effort to throw some light on vexed questions by giving an analysis of the value-phenomenon and considering its relation to feeling, desire and presentation. The value of an object is its relation to the activity of an individual as a whole. Value is never the character or quality of an object, but always a relation between an object and a subject. The origin of the value-phenomenon lies in the transition from one situation to another mediated through a change in the subject himself of the nature of voluntary activity. Every life, so far as successful in its striving to be a whole, modifies, subdues, perhaps converts into their opposites the individual values with which it sets out. If there is an absolute end to which our limited and subjective valuations are instrumental we cannot say what it is. Mr. A. T. Shearman in his paper on "Some Controverted Points in Symbolic Logic" deals with Symbols as representing Classes and Propositions, Symbolic Logic and Modals, Symbols of Operation, the Province of the Logic of Relatives and the Utility of Symbolic Logic. Mr. Clement C. J. Webb gives a paper on "The Personal Element in Philosophy" insisting *inter alia* on the importance of finding out what is meant by Personality. A person aware of himself as unique knows also that he is part of a whole which is all of it his concern and apart from which he would lose his own significance. The greatest personality is most fully conscious of its character as an organ of the universal and of the special function which it, and it alone, discharges in the economy of the universal life. In "The Metaphysical Criterion and its Implications," Mr. H. Wildon Carr subjects Messrs. Bradley and Taylor to criticism, examining the proposition that the criterion of reality affirms the existence and nature of the Absolute, and maintaining that a criterion by its nature cannot itself constitute our positive knowledge of the existence and content of any object of experience. The proposition that the Absolute is an individual experience is based on a meaning of reality quite distinct from that demanded by the criterion; while the two positive characteristics of the Absolute, that it is self-consistent reality, and that it is indissolubly one with ex-

perience, have no necessary connexion with one another, and are arrived at by quite separate arguments. The Absolute is no solution of the problem of reality. As object known it must affirm all the contradictions it is constructed to get rid of. If knowledge is of the real and not itself reality, ultimate scepticism cannot be excluded. Some remarks by Mr. Shadworth H. Hodgson are appended to this paper. The volume concludes with a paper on "Idealism and the Problem of Knowledge and Existence," by Dr. G. Dawes Hicks, in which he begins by comparing the positions of Berkeley and Hume to show that Kant was justified in drawing the contrast he did between his idealism and Berkeley's, and goes on to prove that his Critical Philosophy has provided us with a method of criticising much of the prevalent idealism. Knowledge and existence are two aspects of one interconnected reality, neither arising from nor evolved out of the nature of the other. The contents of knowledge are not existents; existents are not as such contents of knowledge. We have two modes of reality; the reality of validity or truth, the reality of existence. Existence is not that to which truth must correspond; it would be nearer the mark to say that truth is that to which existence must correspond. The existent is not as such the ultimately real; it is only that part of the real by means of which apprehension of truth comes about.

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VIII.—PHILOSOPHICAL PERIODICALS.

PHILOSOPHICAL REVIEW. Vol. xv., No. 1. **W. Fite.** 'The Experience-Philosophy.' [The fundamental proposition of the experience-philosophy (that experience and it alone is 'given' or 'immediately given') is its fundamental error: the thing in space and time is as good a datum as experience; neither is an absolute datum; and the search for absolute data is illusory and logically unnecessary.] **G. H. Sabine.** 'Hume's Contribution to the Historical Method.' [Any theory tending to the recognition of the intimacy of the social relation is also indirectly a contribution to the growth of the historical method. Here Hume's merit is unmistakable: his view of the social nature of the individual and of the organic structure of society is far more adequate than that of the bulk of his contemporaries. His direct contribution is, naturally, less clear; though he did good service by directing attention, in his *History*, chiefly toward manners and customs.] **W. B. Pitkin.** 'The Self-Transcendency of Knowledge.' [A plea for differentiation of terms. The self-transcendency of knowledge is used at present to mean the onflowing of experience towards an unknown; the experiencing of things not 'here,' *i.e.*, temporally or spatially remote; the non-deducible character of the order and way in which new contents appear; the excess of meaning over process; the representative or symbolical function of experience; the superiority of concept to percept.] Discussion. **A. C. Armstrong.** 'Herder and Fiske on the Prolongation of Infancy.' [Herder anticipated Fiske; but there is no evidence of conscious derivation or even of unrealised indebtedness.] Reviews of Books. Notices of New Books. Summaries of Articles. Notes. Vol. xv., No. 2. **J. Dewey.** 'Beliefs and Realities.' [The writer first outlines the conception of the 'common man,' that beliefs are real, and manifest their reality in the usual way, by modifying and shaping the reality of other real things. He then sketches the history of thought, showing how beliefs have been subjected to preconceived notions of knowledge and of reality as its monopolistic possession. Thirdly, he traces some of the *motifs* which make for reconsideration of the supposed uniquely exclusive relation of logical knowledge and reality. Finally, he seeks to prove that the pragmatic point of view unites the fullest acknowledgment of moral powers and demands with thoroughgoing naturalism.] **F. Thilly.** 'Psychology, Natural Science, and Philosophy.' [Rejects various arguments in favour of making psychology a natural science: that mind may be studied in connexion with matter, that the mental series of itself does not form a continuous line, that psychology employs scientific arguments. On the other hand, psychology is indispensable to philosophical studies, while there is no absolutely presuppositionless psychology.] **H. H. Bawden.** 'Evolution and the Absolute.' [The ideas of unity (conservation) and continuity (evolution) are true only when each is interpreted in terms of the other. Reality or experience is conceived as absolutely conserved or as an evolution in time according to the demands of the

specific and concrete situation. Criticism of Spencer, Bradley, and Royce.] **J. G. Hibben.** 'Proceedings of the American Philosophical Association: the fifth annual meeting, Emerson Hall, Harvard University, Cambridge, Mass., 27th to 29th December, 1905.' Discussion. **A. W. Moore.** 'Experience and Subjectivism.' [Reply to Fite.] Reviews of Books. Notices of New Books. Summaries of Articles. Notes.

Psychological Review. Vol. xiii., No. 1. **W. A. Hammond.** 'The Relations of Logic to Allied Disciplines.' [Historical sketch of the growth of logic as formal, metaphysical, and epistemological and methodological. Special problems: (1) Logic as science and as art. "It is the descriptive and explanatory aspect of logic that constitutes its scientific character, while it is the specific normative aspect that constitutes its logical character. . . . The actual methodology of the sciences is logic as art." (2) Logic and psychology are coordinate. (3) Logic is purely a science of evidential values, not a science of content, as are the natural sciences and metaphysics.] **W. R. Wright.** 'Some Effects of Incentives on Work and Fatigue.' [Ergographical experiments. More work is done when a task is set than when no definite aim is proposed. Known inability to fulfil prescribed conditions decreases the total work. Fatigue is less when a task is set, though the output of work is greater.] Discussion. **I. King.** 'The Problem of the Subconscious.' [The subconscious is not dim consciousness; not something psychic, but not self-conscious; it is rather a mass of physical (neural) dispositions, tensions, actual processes, which are in some degree organised,—the remnants of habits and experiences which have either lapsed from consciousness or have never penetrated to the central plexus.] **J. B Pratt.** 'The Place and Value of the Marginal Region in Psychic Life.' [Ideation and sensation are small islands, bathed in the sea of vital feeling. This sea extends from the subconscious up to maximal differentiation, and is in a state of spontaneous turmoil, constantly throwing up products of all sorts on the shores of the clearer consciousness. It represents the primary form of consciousness; gives value to life; determines character and personality.]

American Journal of Psychology. Vol. xvii., No. 1. **C. E. Browne.** 'The Psychology of the Simple Arithmetical Processes: a Study of Certain Habits of Attention and Association.' [A study of the processes involved in addition, multiplication, subtraction, and division, both as written exercises and as mental arithmetic. As the title shows, the author lays chief emphasis upon the functions of association and of selective attention, though full introspective reports of imagery, feelings, etc., are included. In many cases the analysis can only be regarded as preliminary; but the report is so detailed that future work may begin where the present study leaves off.] **S. I. Franz.** 'The Time of Some Mental Processes in the Retardation and Excitement of Insanity.' [Experiments on rate of tapping, simple and compound reactions, adding, discriminating and marking letters, etc. Excited patients show no consistent increase of speed as compared with normal or depressed patients: the maniacal condition is one of increased motor diffusion, not of increased motor ability. Retarded patients are slow at the beginning of all series, but the retardation is not regular. Retarded patients are susceptible to practice. Only in a few cases are the average variations greater for the insane than for normal subjects.] **A. F. Chamberlain.** 'Acquisition of Written Language by Primitive Peoples.' [A summary of what is known of the attempts of missionaries and others to enable certain American Indian peoples to read and write their own tongues.] **C. E. Ferree.**

'An Experimental Examination of the Phenomena usually attributed to Fluctuation of Attention.' [Liminal pressure and electro-cutaneous stimuli give no fluctuation. The intermittences of sensation resulting from minimal visual stimuli or stimulus-differences are explained as adaptation phenomena somewhat obscured by the special conditions. Adaptation is in itself a continuous phenomenon, but its continuity is interfered with by eye-movements, blinking, etc. The theory is supported by a wide range of observations, and by elaborate experiments with variation of intensity and area of the stimuli.] **M. F. Washburn.** 'Minor Studies from the Psychological Laboratory of Vassar College.' (II.) **A. Bell** and **L. Muckenhoupt.** 'A Comparison of Methods for the Determination of the Ideational Type.' [A test of the mutual consistency of the methods given in Titchener's *Exper. Psychol.*, I., ii. General agreement is found; though the writers insist on the importance of distinguishing vividness and frequency of imagery.] **C. H. Town.** 'The Kinaesthetic Element in Endophasia and Auditory Hallucination.' [Report of eight cases, illustrating the different varieties of internal speech, isolated and not inhibited.] **C. H. Town.** 'The Negative Aspect of Hallucinations.' [Hallucination is based not upon dissociation but upon a narrowing of the field of Attention.] Literature. Notes and News.

THE BRITISH JOURNAL OF PSYCHOLOGY. Vol. i., Part 4. October, 1905. **W. H. R. Rivers.** 'Observations on the Senses of the Todas.' [Results of an examination of the Todas in Southern India by means of visual, tactile, and olfactory tests. The value of these results is increased by comparison with those obtained from various other civilised and uncivilised races.] **Charles S. Myers.** 'A Study of Rhythm in Primitive Music.' [An analysis of the complex combinations of rhythms found in the music of the Malays of Sarawak, and showing that, whereas modern music has developed complexities of harmony, primitive music is characterised by complexity of rhythm and rests on the possibility of apprehending 'relatively long periods filled with measures of diverse length . . . as an organic whole or "phrase".'] **James Ward.** 'Is "Black" a Sensation?' [An examination of the facts, as well as of the various Revises of Helmholtz, Hering, Wundt, and S. E. Müller, makes it probable that black is not a positive sensation.] **W. M'Dougall.** 'The Illusion of the "Fluttering Heart" and the Visual Functions of the Rods of the Retina.' [The term 'fluttering heart' covers two different illusions, which ought to be distinguished. One of these illusions is observed in bright light only, and its explanation is physical, *viz.*, difference in the refrangibility of the light-rays employed. The other illusion is observed in dim light only, and with dark-adapted eye, and must be explained with Von Kries as due to the fact that the rods respond to stimulation more slowly than the cones. This supports the theory that the rods are a special apparatus for vision in dim light, and if so, it is an argument in favour of Helmholtz as against Hering's Theory of Vision.] **W. M'Dougall.** 'On a New Method for the Study of Concurrent Mental Operations and of Mental Fatigue.' [Description of an apparatus securing uninterrupted attention to one process and recording at the same time the effects of the interference of a second process of attention.] Proceedings of the Psychological Society.

THE JOURNAL OF PHILOSOPHY, PSYCHOLOGY AND SCIENTIFIC METHODS. II. 23. **Kate Gordon.** 'The Relation of Feeling to Discrimination and Conception.' [Feeling is pure quality and homogeneous.] **I. King.** 'The Real and the Pseudo-psychology of Religion.' [Criticism of Stoops: II. 19. For psychology religion consists of 'value attitudes'.] **W. P.**

Montague. 'Panpsychism and Monism.' [Strong's theory is a 'Darwinization of Berkeley,' but insufficient.] **P. Hughes.** 'Dr. Bush's Definition of Consciousness': [II. 21.] II. 24. **Kate Gordon.** 'Feeling and Conception.' ['To point out the intimacy of the way in which feeling influences thought.'] **W. S. Monroe.** 'Mental Elements of Dreams.' [Questionnaire results.] **J. Dewey.** 'The Knowledge Experience and its Relationships.' ["Validity is not definable or measurable in terms of the knowledge content if isolated, but only of the *function* of the knowledge experience in subsequent experiences," while "needs are not met more or less usefully; they are met more or less successfully, and the successful fulfilment defines the useful thing of the situation."] **B. H. Bode.** 'Cognitive Experience and its Object.' [Discusses Dewey: II. 15.] II. 25. **F. Arnold.** 'Association and Atomism.' [Association should be considered as functional, not atomistic, and appreciated as it *is*.] **L. P. Boggs.** 'The Psychical Complex called an Interest.' ["An interest is a self in that it is the whole of consciousness, but the idea of self is conspicuous by its absence."] **C. M. Bakewell.** 'The Issue between Idealism and Immediate Empiricism.' [Questions Dewey's use of 'immediate' in II. 22.] II. 26. **F. C. French.** 'The Relation of Psychology to the Philosophy of Religion.' [Criticises James, because 'subjective miracle is quite as impossible as objective miracle,' but rests on the assumption that if religious experiences have cognitive value their object must be 'supernatural'.] **J. Dewey.** 'The Knowledge Experience Again.' [Reply to Bode and Bakewell: II. 24, 25. "Even the distinctively logical experience is still always *in toto* an immediate experience."] **W. H. Sheldon.** 'Universals: a Reply' [to Pitkin: II. 22]. III. 1. **W. E. Hocking.** 'The Transcendence of Knowledge.' ["This world beyond is not a fixed order: these kinds of experience seem to a certain extent to play the rôle of world beyond for each other, so that cognitive experience is known by value experience, and value experience in turn by cognition."] **I. A. Leighton.** 'Psychology, and the Logical Judgment with Reference to Realism.' ["The reality of abstract truths is a thought-reality, but not a mere psychological existence."] New York Academy of Science (Report). There is also an interesting review of a book by Schultz arguing that the Greeks were blue-yellow colour blind. III. 2. **H. R. Marshall.** 'The Nature of Feeling.' [Distinguishes five senses of the term and derives them from a common 'subjectiveness'.] **J. Dewey.** 'The Terms Conscious and Consciousness.' [Discusses six senses of the term.] Discussions. **P. Hughes, W. T. Bush, J. B. Miner.** III. 3. **H. N. Gardiner.** 'The Definition of Feeling.' [A feeling is any content of consciousness regarded as the immediate present modification of an individual experience.] **M. F. Washburn.** 'The Term "Feeling".' **H. Nicholas.** 'Professor James's "Hole".' [The notion of 'continuous transitions' in 'pure experience' does not effect a transition from a solipsistic to a 'common' experience.] Meeting of the American Philosophical Association. III. 4. **F. C. S. Schiller.** 'Is Absolute Idealism Solipsistic?' [A paper that should provoke a good deal of discussion and disclaimer. It "contains implications which reduce it to a choice between solipsism and suicide," and concludes that "possibly neither philosophy nor theology would suffer irreparable loss by the self-elimination of absolute idealism".] **E. Tausch.** 'The Interpretation of a System from the Point of View of Developmental Psychology.' [A typical instance of the cumbrous titles which are allowed to disfigure this 'Journal'. The paper is really a criticism of an amateur philosopher named C. K. Franklin.] **J. W. Baird.** 'A Reply to Dr. Miner.' [*Cf.* III. 2.]

REVUE NÉO-SCOLASTIQUE. Février, 1905. **L. Noël.** 'The Principle of Determinism.' [Determinism rests on abstractions: all spontaneity, all liberty, is shut out from the abstract ground to which science has chosen to confine herself.] **E. van Roey.** 'Money according to St. Thomas Aquinas.' **H. Guyot.** 'The Generation of Intelligence by the One according to Plotinus.' [Plotinus attempts an untenable *via media* between pantheism and creationism.] **D. Nys.** 'Cosmological Theories.' Review of **F. Brunetière's** 'Utilisation of Positivism' (for proof of Christianity). Mai, 1905. **L. Noël.** 'The Principle of Determinism.' **C. Piat.** 'God according to Plato.' [A world-soul, ruled by the vision of the Good, forming and upholding nature.] **E. van Roey.** 'St. Thomas's View of Money.' **E. Legrand** replies to an article by **M. Paulhan** in the *Revue Philosophique* on the 'Immorality of Art'. **Mgr. Battifol** is quoted as calling Leo XIII.'s Encyclical on the study of St. Thomas (*Aeterni Patris*, 4th August, 1879) "a declaration of the rights of pure reason" against the current philosophies of Traditionalism, Idealism, Positivism, and Immanence. Mgr. Battifol further says, "Scholasticism ought to apply itself to the study of natural science, without which all notion of life or soul becomes an *a priori* speculation that can no longer take hold on men's minds". Août, 1905. **J. Cevolani.** 'Can any Conclusion Follow from Two Negative Premises?' [Against Rosmini.] **C. Piat.** 'God According to Plato.' **D. Nys.** 'Cosmological Theories.' **D. Mercier.** 'The Tendency of Scholasticism.' [Founded on experience of the University of Louvain. Lectures should be in French, with some repetition in Latin. Order of subjects: Logic as an art merely, Cosmology, Psychology, Metaphysics, Natural Theology, Science of Logic, Moral and Political Philosophy, History of Philosophy.] Novembre, 1905. **S. Deploige.** 'The Conflict of Moral Science with Sociology.' [Whether Ethics are a normative science.] **E. Janssens.** 'A Problem in Pascal.' [Can the *Pensées* be re-arranged into a complete Apology for Christianity, or is it impossible "de refaire une oeuvre qui d'ailleurs ne fut jamais faite"?] **F. v. Canwelaert.** 'Contemporary Theories of the Relation of Soul and Body.' **C. Sentroul** and **J. Cevolani.** [Further discussion on the rule that two negative premises yield no conclusion.]

REVUE DE PHILOSOPHIE. 1er Décembre, 1905. **M. Sérol.** 'Analysis of Attention.' ["Attention, especially internal attention or reflexion, is truly the most human form of our activity; all our powers labour thereat under the authority of the master faculties; hence it may be said that the education of man has no other aim than the triumph of attentive and reflective activity over the brute automatism of images and passions; which shows the advantage that pedagogy may draw from the psychology of attention."] **C. Boncaud.** 'Personal Initiative and Social Authority, an Outline of Juridical Philosophy.' **Dr. de Buck.** 'The Associationist versus the Intellectualist Theory in Mental Pathology.' ["Objectively, biologically speaking, and not on mere grounds of internal observation, we are led to admit in man an organ of apperception."] **N. Vaschide.** 'Human Personality.' [A long and laudatory analysis of the late Mr. Myers's work, which is being translated into French.] 1er Février, 1906. **A. Sertillanges.** 'Agnosticism or Anthropomorphism?' [The question is, what we can know of God—nothing at all or merely a magnified humanity? Both alternatives are rejected according to the teaching of St. Thomas.] **L. Baille.** 'Genesis of First Principles.' ["Why does the principle of contradiction assume a complex form?"] **M. Gossard.** 'Outlines of a Scholastic Synthesis of Morals.' [A highly luminous and suggestive essay on the teleology of the universe.] **J. Gardavi** and **A. Charousset.** 'The Formation of Ideas.' [Further defence of *intellectus agens*.]

Revue Philosophique de la France et de l'Etranger. 30e Année, No. 12, Décembre, 1905. **G. Dumas.** 'Le Préjugé intellectualiste et le Préjugé finaliste dans les théories de l'expression.' [The expression of our various sentiments is essentially a biological fact and can be explained by the variations of the muscular tonus and innervation in a very much clearer and simpler way than through psychology. M. Dumas criticises two main tendencies in the theory of expression, *i.e.*, the finalist tendency as represented by Darwin, and the intellectualist one as represented by Wundt. Opposed to both, he holds he has succeeded in explaining clinically and experimentally, from the physiological point of view, the expression of joy, of sadness, of anger, and of fear.] **H. Luquet.** 'Réflexion et Introspection.' [In psychology the aim of reflective consciousness is to discover the identical under the diverse: it endeavours to form a scientific representation of the inner world, copied from that of the external world, and this kind of artificial knowledge is intended to serve practical purposes, as it does in objective sciences. Introspection, on the contrary, is disinterested, and its aim is to find again the differences under the common characters, to reach the immediate data of consciousness in their original fluency, spontaneity, and purity. Its nature is æsthetic rather than scientific. Science substitutes symbols for the datum; art alone tries to apprehend it in its reality for us. Reflective or scientific psychology is incomplete and therefore false, and must needs be completed by the introspective psychology. A valuable contribution to the study of method in psychology.] **G. Revault d'Allonnes.** 'Rôle des sensations internes dans les émotions et dans la perception de la durée.' [An instructive account of observations methodically pursued on an inmate of St. Anne's Asylum in Paris, who presents, along with a visceral anæsthesia, a total loss of the emotions. The author summarises the main results of his careful study in the following psychological and philosophical conclusions: Visceral sensations are the essential element in emotions. The feeling of concrete duration is nothing else but visceral sensibility. "La durée viscérale" is to be distinguished from "le temps intellectual infini" and from "la durée sensori-motrice". Inclination is possible without any emotion whatever. The state of pure rationality, *i.e.*, the activity directed by categorical imperatives void of emotion, is not a superior mental state, but a pathological one.] **Dr. E. Jardieu.** 'La Haine: étude psychologique.' [A descriptive analysis of the nature of hate and of its various manifestations. In the last paragraphs of the paper the writer makes an attempt, not without self-contradiction, to assign a value to hate, and to maintain its "rights".] Analyses et comptes rendus. Revue des Périodiques étrangers. Table des matières du tome lx. Trente et unième année. No. 1. Janvier, 1906. **B. Bourdon.** 'L'Effort.' [In this short article, mainly polemical, the writer discusses Goldscheider's theory of the perception of physiological effort, and rejects altogether, first, the doctrine of William James and of other psychologists according to which there exists a purely moral or mental effort, essentially distinct from the muscular one, and secondly, the hypothesis which presents the sensation of resistance as the ultimate basis of our notion of an external world.] **Dr. J. Rogues de Fursac.** 'L'Avarice: essai de psychologie morbide' (1er article). [First part of a very instructive study, based on clinical observations, on avarice. The elementary functions of knowledge (perception, memory, and association of representations), its complex manifestations (imagination, judgment, general notions), and the atrophy of altruistic feelings, as they appear in this "distinctly morbid passion," are carefully and clearly described and analysed by a physician who is also a psychologist.] **G. Prevost.** 'La Religion du doute.'

[Doubt about all the revealed religions is the main characteristic of our time. But is it not possible to lay on this very doubt the foundation of a kind of religion which would not abolish the positive religions, but rather include them and even lead to higher moral consequences? M. G. Prevost undertakes this task and delineates what he calls the religion of doubt. His leading ideas, in which the reader will recognise both a very old doctrine of a noble inspiration, and an uncritical attitude of mind, are the following: God should be conceived as the necessary ground of all, and the unknowable Infinite. The existence of the human soul has had no beginning and shall have no end; we have lived anterior lives of which we have vague reminiscences, and in the continuity of its future lives the soul will probably pass, by personal, intellectual and moral endeavour, into more perfect states. The modern ideas of evolution and the recent theory of matter are advocated by the author as confirmative of his general views. Meanwhile, certainty in the knowledge of our destiny would eradicate in man the desire and the merit of action: doubt is the greatest gift for mankind. The author holds it possible to build up on the basis of his principles an ethics of a practical and very high character which shall afford an adequate sanction to our sentiment of justice.] Revue Générale: **G. Richard.** 'La Philosophie du droit au point de vue sociologique.' [A critical review of nine books recently published—five of them in Italy—treating of the philosophy of law.] 'Analyses et Comptes-rendus.' Revue des Périodiques étrangers [A review of MIND, 1905, January-October].

ARCHIVES DE PSYCHOLOGIE. Tome v., No. 2. **A. Lemaitre.** 'Fritz-Algar: histoire et guérison d'un désordre cérébral précoce.' [Account of a case of hysteria (nightmares, autoscopic hallucinations, soliloquies) in a youth of fifteen; treatment and cure by suggestive redintegration of dissociation.] **W. de Bechterew.** 'Des signes objectifs de la suggestion pendant le sommeil hypnotique.' [Many suggestions, given in the hpynotic state, and apparently accepted by the subject, are not actually realised. It is therefore important to possess objective (physiological) means of control. The writer gives a list of such objective tests.] **W. de Bechterew.** 'Nouvel appareil pour l'examen de la perception acoustique.' [Description of an acoumeter, of the type of Zoth's and Lehmann's.] **P. Cérésole.** 'Le parallélisme psycho-physiologique et l'argument de M. Bergson.' [To refute parallelism by M. Bergson's argument, one must show that as a matter of fact the external world may be modified without modification of the nervous system. Comparison of determinism and parallelism, as similar theories applied respectively to time and to space.] **E. Claparède.** 'L'Agrandissement et la proximité apparents de la lune à l'horizon.' [Review of theories: new observations. We overestimate the moon on the horizon because we take it for a terrestrial object. We do this partly because of its situation in space, partly because its colour changes prevent or hinder recognition and identification. Further, we overestimate it for affective reasons, on account of our interest in terrestrial objects.] Recueil de faits: Documents et Discussions. **M. Roch.** 'Note sur les prévisions de rencontre.' [Our thinking of people just before we met them may be due to suggestion from familiar localities, to actual (but subconscious) recognition at a distance, or to simple coincidence. There is no need to invoke telepathy, etc.] **A. Elmer.** 'Vme Conférence suisse pour l'éducation des anormaux, St. Gall, 1905.' **T. Jonckheere.** 'La IIIme conférence belge pour l'amélioration du sort de l'enfance anormale.' Bibliographie. Notes diverses.

ZEITSCHRIFT FÜR PSYCHOLOGIE UND PHYSIOLOGIE DER SINNESORGANE. Bd. xi., Heft 3. **R. Saxinger.** 'Beiträge zur Lehre von der emotionalen Phantasie.' [Elsenhans's generalisation and Ribot's abstraction of feeling have reference to the same emotional phenomenon, but to this phenomenon as observed in different contexts. The 'abstract' feelings are feelings of imagination, attaching directly to substrate-ideas. This direct attachment must be explained from specific dispositions to feelings of imagination, actualised by the substrate-ideas. Desires of imagination differ from real desires in that they do not cease with the fulfilment of the imagination.] **S. Loria.** 'Untersuchungen über das Peripherie Sehen; ein Beitrag zur Psychologie der Aufmerksamkeit.' [Extension of Heinrich's work on the changes of accommodation in peripheral vision. The accommodative adjustment of the eye to paraxial distances is determined unequivocally by the position of the object, *i.e.*, is independent of the distance of the fixation point; the eye is paraxially strongly myopic, the myopia increasing with the angle of paraxial presentation; the breadth of accommodation decreases with the angle of paraxial presentation, etc. The results are turned to account for the theory of attention and of range of consciousness.] **W. Lohmann.** 'Ueber den Wettstreit des Sehfelder und seine Bedeutung für das plastische Sehen.' [Consideration of the presence of rivalry in everyday life, and of the differences in this regard between central and peripheral vision, lead to the conclusion that the main condition of plastic vision is the (ordinarily unconscious) rivalry of the two monocular fields and the consequent apparent parallax of the objects lying before and behind the point of fixation.] Literaturbericht. Bd. xxxix., Heft 1 and 2. **W. Weygandt.** 'Experimentelle Beiträge zur Psychologie des Schlafes.' [For such easy and customary work as addition, a half-hour sleep period gives complete recuperation. For more difficult work (memorising), a longer period is required; the recuperation being, on the whole, proportional to the length of the sleep.] **H. Giering.** 'Das Augenmass bei Schulkindern.' [Estimation of visual extents does not improve during the school years; oftentimes does not improve from the age of three onwards. Children from six years of age are, on the whole, subject to the same plane illusions as adults. In the absence of secondary criteria, children do not perceive monocularly differences of extent in the third dimension.] **W. Nagel** and **H. Piper.** 'Ueber die Bleichung des Sehpurpurs durch Lichter verschiedener Wellenlänge.' [Frog and owl retinas bleach out in the same way, no matter what the colour of the bleaching light may be. The result tells against Kühne's hypothesis of a visual yellow.] **W. Nagel.** 'Dichromatische Fovea, trichromatische Peripherie.' [Case of central Deuteranopia (so-called green blindness), with normal periphery. The subject had passed various railway tests.] **A. E. Fick.** 'Ueber die Verlegung der Netzhautbilder nach aussen.' [The projection of a single bright point in a dark field of vision is extraordinarily inaccurate.] Besprechungen. Literaturbericht. Bd. xxxix., Heft 3. **K. Heilbronner.** 'Zur Frage der motorischen Asymbolie (Apraxie).' [Discussion of cases (symptoms, aetiology, classification), with special reference to the work of Meynert and Siepmann.] **G. Alexander-Schaefer.** 'Zur Frage der Beeinflussung des Gedächtnisses durch Tuschreize.' [The primary memory image is always affected by a strong intercurrent sensory stimulus; secondary images are not changed if they are stable and of long standing. Habituation frees the memory image, but cannot suppress the motor reaction.] Literaturbericht. Bd. xxxix., Heft 4 and 5. **C. Stumpf.** 'Ueber zusammengesetzte Wellenformen: mit 2 Figurentafeln von K. L. und M. Schaefer.' [Discussion of figures, with hints of possible applications to the facts of audition.] **C. Stumpf.** 'Differ-

enztöne und Konsonanz.' [Critique of F. Krueger.] **R. P. Angier** and **W. Trendelenburg.** 'Bestimmungen über das Mengenverhältnis komplementärer Spektralfarben Weissmischungen.' **C. M. Geissler.** 'Das Ich im Traume, nebst einer kritischen Beleuchtung der Ich-Kontroverse.' [Discusses, with constant reference to the writer's previous works, the dream-processes of condensation, schematisation, and endophasia (all interpreted as means to the enhancement of mental energy); the gradual emergence of the bodily self in dreams from a feeling of centromotor regulation; the formal and material contents of the dream-self, etc. Epistemologically the author sides with Avenarius and Schuppe as against Ziehen, making the feeling of motor regulation the essential constituent of the self.] **G. Revesz.** 'Wird die Lichtempfindlichkeit eines Auges durch gleichzeitige Lichtreizung des andern Auges verändert?' [Experiment shows that there is no uniform change.] **R. Stigler.** 'Beiträge zur Kenntnis von der entoptischen Wahrnehmung der Netzhautegefässe.' [Describes some new and simple methods of observation.] **R. Stigler.** 'Eine neue subjektive Gesichtserscheinung.' [Projection of a polygonal network of silvery white lines.] Literaturbericht. Bd. xxxix., Heft 6. **W. Peters.** 'Aufmerksamkeit und Zeitverschiebung in der Auffassung disparater Sinnesreize.' [Repetition and extension of Exner's experiments, with and without special direction of attention. Explanation in terms of inhibition and facilitation, with emphasis on motor adaptation as a feature of the attentive state.] **R. P. Angier.** 'Die Schätzung von Bewegungsgrössen bei Vorderarmbewegungen.' [Under the conditions, accuracy of spatial estimation is independent of position and resistance or muscular tension, but dependent on rate of movement, whether active or passive. Explanation in terms of articular sensations.] **C. E. Seashore.** 'Die Aufmerksamkeitsschwankungen.' [Critique of Hammer.] Literaturbericht. Bd. xl., Heft 1 and 2. **A. Marty.** 'Ueber Annahmen.' [Maintains that Brentano's division of primary mental functions into ideation, judgment, and interest is adequate, as against Meinong's view that assumptions form a class of functions lying midway between those of ideation and judgment. Detailed criticism of Meinong's work.] **G. Alexander-Schaefer.** 'Zur Frage Über den zeitlichen Verlauf des Gedächtnisbildes für verschiedene Sinnesreize.' [Repetition and extension of Paneth's work, with visual, auditory, and tactual stimuli. No attempt at analysis.] **A. Mueller.** 'Ueber den Einfluss der Blickrichtung auf die Gestalt des Himmelsgewölbes.' [Critique of Reimann and Deichmüller; new observations. The chief factor in the illusion of the form of the arch of the sky is, not atmosphere, but direction of regard; though this is not, or not always, the main factor in the illusion of the greater size of the heavenly bodies on the horizon. The influence of colour on the whole group of illusions deserve study.] Literaturbericht. **W. Stern.** 'Kindespsychologie und Pädagogik.—II.' Bd. xl., Heft 4. **C. O. Taylor.** 'Ueber das Verstehen von Worten und Sätzen.' [Experiments on the 'understanding' of language, heard or read; dictation of simple problems, reading-to-oneself of paragraphs, abstract and concrete, listening to poetry, etc. Results: the understanding of concrete passages may be assisted by the rise of images, though these become fewer as the text becomes familiar; that of abstract passages is rather hindered by such images; the conscious attitude of 'understanding' becomes less apparent the more familiar the material; etc.] **G. H. Schneider.** 'Die Orientierung der Brieftauben.' [Report of elaborate experiments. The birds are attracted by valleys and by clumps of houses; difference between young and old birds; specimen paths for different distances; meaning of training to a certain direction. Explanation throughout in terms of perpetual im-

pulse : there is no innate sense of direction, no reflexion or purposive choice.] Literaturbericht. **W. Peters.** 'Erwiderung'. [Reply to Piper.] Bd. xl., Heft 5 und 6. Literaturbericht. **K. L. Schaefer,** mit Unterstützung von **H. C. Warren.** 'Bibliographie der psycho-physiologischen literatur des Jahres 1904.' [2,463 titles, as against 2,575 of the same bibliography for 1903, and 3,445 of the *Psychological Index* for 1904.]

Archiv für die Gesammte Psychologie. Bd. vi., Heft 3. **W. Ament.** 'Ein Fall von Ueberlegung beim Hund?' [Case of supposed reflection on the ground of general experience (licking frost off a window pane) in a dog.] **J. Segal.** 'Die Bewusste Selbsttäuschung als Kern des ästhetischen Geniessens : eine kritische Betrachtung.' [Critique of Conrad. (1) *Methodological.* Two experiences which have opposite names (*e.g.*, agreeableness and disagreeableness) need not consist of precisely opposite mental contents ; and to explain æsthetic pleasure we must have recourse, not to a single complex and unanalysed process, but to the elementary processes into which by analysis the total attitude may be resolved. (2) *Psychological.* As a matter of fact, we have no consciousness of self-illusion in æsthetic contemplation ; moreover, it is not true that the greater the illusion the greater is the æsthetic pleasure.] **E. Duerr.** 'Zur Frage der Wertbestimmung.' [Critique of Kreibig, Meinong, von Ehrenfeir, Cohn. "Wert ist jede Lust und alles, worauf unsere Lustgefühle sich beziehen in der eigenartigen Weise, die wir meinen, wenn wir von einer Richtung des Gefühls auf Objekte sprechen." Five types of this reference are provisionally distinguished.] **F. Kiesow.** 'Ueber einige geometrischoptische Täuschungen.' [Notes on some rectilinear illusions of variable extent, which are made to lead up to the Müller-Lyer illusion. Contrast and perspective are subordinate moments ; the explanation must be sought pre-eminently in the motor mechanism of the eye.] **L. Botti.** 'Ein Beitrag zur Kennntis der variablen geometrisch-optischen Streckentäuschungen.' [A parallel investigation to that of the previous paper, dealing with divided lines, filled an empty space, filled rectangles, etc. Same conclusion as before.] **G. Stoerring.** 'Experimentelle Beiträge zur Lehre vom Gefühl.' [(1) Distinction of sensory pleasantness and pleasantness of mood or disposition : the former attaches to the stimulus complex (taste), the latter spreads over the whole consciousness ; the former is attended by quickening, the latter by slowing of respiration. (2) Pneumographic curves of unpleasantness are distinguished by diminution of the average value of the quotient obtained by dividing length of inspiration by length of expiration. (3) Dynamometrical experiments, aimed to trace the relation between feeling and external voluntary action, show that unpleasant feelings may be a direct motive to action.] **F. Kiesow.** 'Ueber sogenannte "frei steigende" Vorstellungen und plötzlich auftretende Aenderungen des Gemütszustandes. Sind die Verbindungsglieder, welche hierbei in Frage kommen, unbewusst oder unbemerkt?' [Concludes that there is, in all probability, no reproduction without association ; that sudden changes of mood are also mentally motivated ; and that the connecting links are unremarked or unnoticed, not unconscious. An interesting and valuable paper ; but written with a triviality of circumstance that renders it unnecessarily long.] **W. Ament.** 'Das Projekt eines Kongresses für Kinderkunde, Kindererziehung und Jugendfürsorge.' Referate.

Archiv für Systematische Philosophie. Neue Folge, Bd. xi., Heft 4. 25th November, 1905. **H. Leser.** 'Über die Möglichkeit der

Betrachtung von unten und von oben in der Kulturphilosophie' (Schluss). [Concludes very much in the spirit of Eucken. Naturalistic methods based on a spiritual principle ultimately reduced to mere appearance; whereas a more philosophical investigation disentangles the spiritual life from the empirical and sensuous and shows that it is a living, independent reality. It functions and preserves itself in experience giving that its meaning and drawing it over to itself. The *Reich ideeler Grössen* not merely existing in reflexion, but an actual and increasingly conscious power in the governing of life. In dealing with logic, ethics and religion we have nothing to do with a naturalistic *Betrachtung von unten*, but grasp teleological necessities deriving from a triumphant spiritual reality.] **D. Adolf Müller.** 'Quellen und Ziele sittlicher Entwickelung' (Schluss). [Deals with the question of evil and the problem of development.] **Dr. Ernst Schwarz.** 'Über Phantasiegefuhle.' [These not identical with weak serious-feelings, but qualitatively different. Wundt is wrong in holding that they precede the imaginary presentation: they are rather coincident with it. They do not, like weak feelings, have the power of strengthening dispositions of feeling.] **Anna Tumarkin.** 'Bericht über die deutsche ästhetische Literatur aus den Jahren 1900-5, iii.' Neuste Erscheinungen, etc.

Vierteljahrsschrift für wissenschaftliche Philosophie und Soziologie. Jahrgang xxix., Heft iv. **Hermann Planck.** 'Die Grundlagen des natürlichen Monismus bei Karl Christian Planck' (Schluss). [Deals principally with Planck's ethical doctrine. Morality is conscious unity with the universal law and end of the world—the law of Concentration. The highest possible creation is man—or some similar being—a central point formally governing the external world, in which the real unconditional-materiality with all its forces—has created as spirit the formally unconditional. To round things off it only remains to make mankind a perfect organism, and to do so we must have collectivism. The external, mechanical idea of the state must give place to the *berufsgenossenschaftliche Selbstverwaltung*. But morality has no extra-human aspect, after all, since man remains in opposition to Nature; religious conceptions are banished, and his life is made a mere sportful product of eternally parturient Nature.] **W. Schallmayer.** 'Zur sozialwissenschaftlichen und sozialpolitischen Bedeutung der Naturwissenschaften, besonders der Biologie.' [A protest against exclusive attention to economical questions, and a consideration of the principal arguments against permitting Sociology to be influenced by natural science, especially Biology.] Besprechungen. Zeitschriften. Bibliographie.

Rivista Filosofica. Anno vii., vol. viii., Fasc. iii., May-June, 1905. **G. Vailati.** 'L'influenza della Matematica sulla teoria della conoscenza nella Filosofia moderna.' [Deals, so far, only with the philosophers of the seventeenth century, omitting Spinoza, and explaining at length to what extent Leibniz in particular applied mathematical methods to philosophical constructions.] **B. Varisco.** 'La fine del Positivismo.' [Positivism may be out of fashion; but the temporary vogue of a philosophy has nothing to do with its truth. The writer takes the opportunity of reaffirming his own positivist convictions, illustrating them by a discussion on the question of determinism, which for his part he reasserts, simply as a fact of experience.] **G. Buonfiglioli.** 'Tertulliano e la Filosofia Pagana.' [With all his contempt for heathen philosophy, which he regarded as part of a vast Satanic system, Tertullian found himself obliged to borrow its methods for the organisation of Christian doctrine, choosing by preference Stoicism for the purpose.] Rassegna

Bibliografica, etc. Fasc. iv., September-October. **E. Juvalta.** 'Per una scienza normativa morale.' [Ethical science cannot after all be reduced to a mere analysis of facts. It demands an ideal. The writer's ideal is absolute justice—the giving equal chances to all citizens of enjoying the goods for whose attainment society exists. Egoism is no more reasonable than altruism, for reason does not prescribe ends but means.] **G. Buonfiglioli.** 'La Psicologia di Tertulliano nei suoi rapporti colla Psicologia Stoica.' [Tertullian not only borrows his general materialism from the Stoics, but also various details of their psychology.] **A. Pagano.** 'Vicende del termine e dell concetto di legge nella Filosofia Naturale.' [The idea of natural law shows three historical phases. In the first physical uniformities are explained as divine volitions of an arbitrary and changeable character. In the second these volitions are conceived as invariable and necessary. In the third natural law is identified with the impersonal order of phenomena; but while one school regards this order as a fixed necessity, another school regards it as merely contingent.] **S. Montanelli.** 'Il Meccanismo delle emozioni.' [Disputes the theory of Sollier, according to which, as here described, emotion is the consciousness the brain has of its own sensibility.] **F. Bonatelli.** 'Multa renascentur (Apologo).' [Imagines a race of animals to whom light is a new experience, greatly puzzled to explain its nature, until a school arises which proclaims, to the satisfaction of all but a few, that there is really no such thing as light!] Rassegna Bibliografica, etc

IX.—NOTE.

MIND ASSOCIATION.

THE Annual General Meeting will be held in the University College, London, on Saturday, 2nd June, 4.15 P.M.

The following gentlemen have joined the Association since the printing of the last number:—

ALTON (E. H.), Trinity College, Dublin.
DAVIDSON (Dr. J.), High School, Stranraer, N.B.
HARRIS (Rev. W.), Eaton Socon, St. Neots, Hants.
ROGERS (R. A. P.), Trinity College, Dublin.

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY

I.—THE EXPERIMENTAL THEORY OF KNOWLEDGE.

By John Dewey.

It should be possible to discern and describe a knowledge as one identifies any object, concern or event. It must have its own marks; it must offer characteristic features—as much so as a thunder-storm, the constitution of a State, or a leopard. In the search for this affair, we are first of all desirous for something which is for itself, contemporaneously with its occurrence, a cognition, not something called knowledge by another and from without—whether this other be logician, psychologist or epistemologist. The 'knowledge' may turn out false, and hence no knowledge; but this is an after-affair; it may prove to be rich in fruitage of wisdom, but if this outcome be only wisdom after the event, it does not concern us. What we want is just something which takes itself as knowledge, rightly or wrongly.

I.

This means a specific case, a sample. Yet instances are proverbially dangerous—so naïvely and graciously may they beg the questions at issue. Our recourse is to an example so simple, so much on its face as to be as innocent as may be of assumptions. This we shall gradually complicate, mindful at each step to state just what new elements are introduced.

Let us suppose a smell, just a floating odour. This odour may be anchored by supposing that it moves to action; it

starts changes which end in picking and enjoying a rose. This description is intended to apply to the course of events witnessed and recounted from without. What sort of a course must it be to constitute a knowledge, or to have somewhere within its career that which deserves this title? The smell, *imprimis*, is in consciousness; the movements that it excites are in consciousness; the final plucking and gratification are experienced. But, let us say, the smell is not the smell *of* the rose; the resulting change of the organism is not a sense of walking and reaching; the delicious finale is not the fulfilment of the movement, and, through that, of the original smell: 'is not,' in each case meaning is 'not experienced as'; is not so directly in consciousness. We may take, in short, these experiences in a brutely serial fashion. The smell, *S*, is replaced (and displaced) by a felt movement, *K*, this is replaced by the gratification, *G*. Viewed from without, as we are now regarding it, there is *S-K-G*. But from within, for itself, it is now *S*, now *K*, now *G*, and so on to the end of the chapter. Nowhere is there looking before and after; memory and anticipation are not born. Such an experience neither is, in whole or in part, a knowledge, nor does it anywhere exercise a cognitive function.

Here, however, we may be halted. If there is anything present in consciousness at all, we may be told (at least we constantly are so told) there must be knowledge of it as present—either in a world of things, or, at all events, in 'consciousness'. There is, so it is argued, knowledge at least of the simple apprehensive type, knowledge of the acquaintance order, knowledge *that* even though not knowledge *what*. The smell, it is admitted, does not know *about* anything else, nor is anything known *about* the smell (the same thing, perhaps); but the smell is known, either by itself, or by the mind, or by some subject, some unwinking, unremitting eye. No, we must reply; there is no apprehension without some (however slight) comprehension; no acquaintance which is not either recognition or expectation. Acquaintance is presence honoured also with an escort; presence is introduced as familiar, or an associate springs up to greet it. Acquaintance always implies a little friendliness; a trace of re-knowing, of anticipatory welcome or dread of the trait to follow.

This claim cannot be dismissed as trivial. If valid, it carries with it the immense distance of being and knowing: and the recognition of an element of mediation, that is, of art, in all knowledge. This disparity, this transcendence, is not something which holds of *our* knowledge, of finite knowledge,

of relative knowledge, just marking the gap between our type of consciousness and some other with which we may contrast it after the manner of the agnostic or the transcendentalist (who hold so much property in joint ownership!), but holds because knowing is knowing, that way of bringing things to bear upon things which we call reflexion—a manipulation of experiences in the light one of another.

"Feeling," I read in a recent article, "feeling is immediately acquainted with its own quality, with its own subjective being."[1] How and whence this duplication in the inwards of feeling into feeling the knower and feeling the known? into feeling as being and feeling as acquaintance? Let us frankly deny such monsters. Feeling *is* its own quality; is its own *specific* (whence and why, once more, *subjective?*) being. If this be dogmatism, it is at least worth insistent declaration, were it only by way of counter-irritant to that other dogmatism which asserts that being in consciousness is always presence for or in knowledge. So let us repeat once more, that to *be* a smell (or anything else) is one thing, to be *known* as smell, another; to be a 'feeling' one thing, to be *known* as a 'feeling' another.[2] The first is thinghood; being, absolute, indubitable, direct; in this way all things *are* that are in consciousness at all.[3] The second is reflected being, things indicating and calling for other things—something offering the possibility of truth and hence of falsity. The first is genuine immediacy; the second is (in the instance discussed) a pseudo-immediacy, which in the same breath that it proclaims its immediacy smuggles in another term (and one which is unexperienced both in itself

[1] I must remind the reader again of a point already suggested. It is the identification of presence in consciousness with knowledge as such that leads to setting up *a* mind (*ego*, subject) which has the peculiar property of knowing (only so often it knows wrong!), or else that leads to supplying 'sensations' with the peculiar property of surveying their own entrails. Given the correct feeling that knowledge involves relationship, there being, by supposition, no other *thing* to which the thing in consciousness is related, it is forthwith related to a soul substance, or to its ghostly offspring, a 'subject,' or to 'consciousness' itself.

[2] Let us further recall that this theory requires either that things present shall be already psychical things (feelings, sensations, etc.), in order to be assimilated to the knowing mind, subject to consciousness; or else translates genuinely naïve realism into the miracle of a mind which gets outside itself to lay its ghostly hands upon the things of an external world.

[3] This means that things may be present *as* known, just as they be present as hard or soft, agreeable or disgusting, hoped for or dreaded. The Mediacy, or the art of intervention, which characterises knowledge, indicates precisely the way in which known things as known are present.

and in its relation) the subject, or consciousness, to which to relate the immediate.[1]

But we need not remain with dogmatic assertions. To be acquainted with a thing or with a person has a definite empirical meaning; we have only to call to mind what it is to be genuinely and empirically acquainted, to have done for ever with this uncanny presence which, though bare and simple presence, is yet known, and thus is clothed upon and complicated. To be acquainted with a thing is to be assured (from the standpoint of the experience itself) that it is of such and such a character; that it will behave, if given an opportunity, in such and such way; that the obviously and flagrantly present trait is associated with fellow traits which will show themselves, if the leadings of the present trait are followed out. To be acquainted is to some extent, on the basis of prior experience, to anticipate. I am, say, barely acquainted with Mr. Smith: then I have no extended body of associated qualities along with those palpably present, but at least some one suggested trait occurs; his nose, his tone of voice, the place where I saw him, his calling in life, an interesting anecdote about him, etc. To be acquainted is to know what a thing is *like* in some particular. If one is acquainted with the smell of a flower it means that the smell is not just smell, but reminds one of some other experienced thing which stands in continuity with the smell. There is thus supplied a condition of control of or purchase upon what is present, the possibility of translating it into terms of some other trait not now sensibly present.

Let us return to our example. Let us suppose that *S* is not just displaced by *K* and then by *G*. Let us suppose it persists; and persists not as an unchanged *S* alongside *K* and *G*, nor yet as fused with them into a new further quale *J*. For in such events, we have only the type already considered and rejected. The new quale might be for an observer more complex, or fuller of meaning, than the original *S*, *K* or *G*, but might not be experienced *as* complex. We might thus suppose a composite photograph which would suggest

[1] If Hume had had a tithe of the interest in the mode and operation of the *flux* of perceptions (that he carelessly proclaimed and then abandoned as a merely negative thing, useful to drown dogmatists in), which he had in distinct and isolated existences, he might have saved us both from German *Erkenntnisstheorie*, and from that modern miracle play, the psychology of elements of consciousness, which under the ægis of science, does not hesitate to have psychical elements compound and breed, and in their agile intangibility put to shame the performances of their less acrobatic cousins, physical atoms.

nothing of the complexity of its origin and structure. In this case we should have simply another picture.

But we may also suppose that the blur of the photograph suggests the superimposition of others and something of their character. Then we get another, and for our problem, much more fruitful kind of persistence. We will imagine that the final *G* assumes this form: Gratification terminating movement induced by smell. The smell is still present; it has persisted. It is not present in its original form, but is represented with a quality, an office, that of having excited activity and thereby terminated its career, in a certain quale of gratification. It is not *S*, but Σ; that is *S* with an increment of meaning due to maintenance and fulfilment through a process. *S* is no longer just smell, but smell which has excited and thereby secured.

Here we have a cognitive, but not a cognitional thing. In saying that the smell is finally experienced as *meaning* gratification (through intervening handling, seeing, etc.) and meaning it not in a hapless way, but in a fashion which operates to effect what is meant, we retrospectively attribute intellectual force and function to the smell—and this is what is signified by 'cognitive'. Yet the smell is not cognitional, because it did not knowingly intend to mean this; but is found, after the event, to have meant it. Nor again is the final experience, the Σ or transformed *S*, a knowledge.

Here again the statement may be challenged. Those who agree with the denial that bare presence of a quale in consciousness constitutes acquaintance and simple apprehension, may now turn against us, saying that experience of fulfilment of meaning is just what we mean by knowledge, and this is just what the Σ of our illustration is. The point is fundamental. As the smell at first was presence or being, less than knowing, so the fulfilment is an experience which is more than knowing. Seeing and handling the flower, enjoying the full meaning of the smell as the odour of just this beautiful thing is not knowledge because it is more than knowledge.

As this may seem dogmatic, let us suppose that the fulfilment, the realisation, experience, is a knowledge. Then how shall it be distinguished from and yet classed with other things called knowledge, *viz.*, reflective, discursive cognitions? Such knowledges are what they are precisely because they are not fulfilments, but intentions, aims, schemes, symbols of overt fulfilment. Knowledge, perceptual and conceptual, of a hunting dog is prerequisite in order that I may really hunt with the hounds. The hunting in turn may increase

my knowledge of dogs and their ways. But the knowledge of the dog, *qua* knowledge, remains characteristically marked off from the use of that knowledge in the fulfilment experience, the hunt. The hunt is a *realisation* of knowledge; it alone, if you please, verifies, validates, knowledge, or supplies tests of truth. The prior knowledge of the dog, was, if you wish, hypothetical, lacking in assurance, in categorical certainty. The hunting, the fulfilling, realising experience alone *gives* knowledge, because it alone completely assures; makes faith good in works.

Now there is and can be no objection to this definition of knowledge, *provided it is consistently adhered to.* One has as much right to identify knowledge with complete assurance, as I have to identify it with anything else. Considerable justification in the common use of language, in common sense, may be found for defining knowledge as complete assurance. But even upon this definition, the fulfilling experience is not, as such, complete assurance, and hence not a knowledge. Assurance, cognitive validation, and guaranteeship, follow from it, but are not coincident with its occurrence. It *gives*, but *is* not, assurance. The concrete construction of a story, the manipulation of a machine, the hunting with the dogs, is not, so far as it *is* fulfilment, a confirmation of meanings previously entertained as cognitional; that is, is not contemporaneously experienced as such. To think of prior schemes, symbols, meanings, as fulfilled in a subsequent experience, is reflectively to present to oneself in their relations to one another both the meanings and the experiences in which they are, as a matter of fact, embodied. This reflective attitude cannot be identical with the fulfilment experience itself. It occurs only in retrospect when the worth of the meanings, the cognitive ideas, is critically inspected in the light of their fulfilment. Or it occurs as an interruption of the fulfilling experience. The hunter stops his hunting consciousness as a fulfilment to reflect that he made a mistake in his idea of his dog, or again, that his dog is everything he thought he was—that his notion of him is confirmed. Or, the man stops the actual construction of his machine and turns back upon his plan in correction or in admiring estimate of its value. *The fulfilling experience is not of itself knowledge*, then, even if we identify knowledge with fulness of assurance or guarantee. Moreover it gives, affords, assurance only in reference to a situation which we have not yet considered.[1]

[1] In other words, the situation as described is not to be confused with the case of hunting on purpose to test an idea regarding the dog.

In other words, before there can properly be use of the idea of confirmation or refutation, there must be something which *means* to mean something and which therefore can be guaranteed or nullified by the issue—and this is precisely what we have not as yet found. We must return to our instance and introduce a further complication. Let us suppose that the smell quale recurs at a later date, and that it recurs neither as the original S nor yet as the final Σ, but as an S which is fated or charged with the sense of the possibility of a fulfilment like unto Σ. The S′ which recurs is aware of something else which it means, which it intends to effect through an operation which it incites and without which its own presence is abortive, and, so to say, unjustified, senseless. Now we have an experience which is *cognitional*, not merely cognitive; which is contemporaneously aware of meaning something beyond itself, instead of having this meaning ascribed by another or at a later period. *The odour knows the rose; the rose is known by the odour; and the import of each term is constituted by the relationship in which it stands to the other.* That is, the import of the smell is the intentionally indicating and demanding relation which it sustains to the enjoyment of the rose as its fulfilling experience; while this enjoyment is just the content or definition of what the smell consciously meant, *i.e.*, meant to mean.

The spectator or critic may decide that the smell is a feeling or state of consciousness or idea—but in this case he is talking about smell in a different context, another thing, having another meaning in another situation—his own cognitive problem as psychologist or whatever. But for itself the smell is a definite thing or quale which identifies itself with its intention—securing another thing as its own fulfilment. And the enjoyed rose is not that of the artist or the botanist—it is not the object of some other intention and problem, but is precisely the qualities meant or intended by this particular smell. *Subsequent* fulfilment may increase this content, so that the object or content of the rose as known will be other and fuller next time and so on. But we have no right to set up 'a rose' at large or in general as the object of the knowing odour; the object of knowledge is always strictly correlative to that particular thing which means it. It is not something which can be put in a wholesale way over against that which cognitively refers to it, as when the epistemologist puts the 'real' rose (object) over against the merely phenomenal or empirical rose which *this* smell happens to mean. As the meaning gets more complex, fuller, more finely discriminated, the object which realises or fulfils the

meaning grows similarly in quality. But we cannot set up a rose, an object of fullest, complete and exhaustive content as that which is really meant by any and every odour of a rose, whether it consciously meant to mean it or not. The test of the cognitional rectitude of the odour lies in the *specific* object which it sets out to secure. This is the meaning of the statement that the import of *each* term is found in its relationship to other. It applies to object meant as well as to the meaning. Fulfilment, completion are always relative terms. *Hence the criterion of the truth or falsity of the meaning, of the adequacy, of the cognitional thing lies within the relationships of the situation and not without.* The thing that means another by means of an intervening operation either succeeds or fails in accomplishing the operation indicated, while this operation either gives or fails to give the object meant. Hence the truth or falsity of the original cognitional object.

Let us return to the situation in which a smell is experienced to mean a certain fulfilment through an operation. Both the thing meaning and the thing meant are elements in the same situation. Both are present, but both are not present in the same way. In fact, one is present as-*not*-present-in-the-same-way-in-which-the-other-is. It is present as something to be rendered present in the same way through the intervention of an operation. We must not balk at a purely verbal difficulty. It suggests a verbal inconsistency to speak of a thing present-as-absent. But all ideal contents, all aims (that is things aimed at) are present in just such fashion. Things can be presented as absent, just as they can be presented as hard or soft, black or white, six inches or fifty rods away from the body. The assumption that an ideal content must be either totally absent, or else present *in just the same fashion* as it will be when it is realised, is not only dogmatic, but self-contradictory. The only way in which an ideal content can be experienced at all is to be presented as *not-present-in-the-same-way* in which something else is present, the latter kind of presence affording the standard or type of *satisfactory* presence. When present in the same way it ceases to be an ideal content. Not a contrast of bare existence over against non-existence, or of present consciousness over against reality out of present consciousness, but of a satisfactory with an unsatisfactory mode of presence makes the difference between the 'really' and the 'ideally' present.

In terms of our illustration, handling and enjoying the rose is presented, but it is not present in the same way that the smell is present. It is presented as *going* to be there in

the same way, through an operation which the smell stands sponsor for. The situation is inherently an uneasy one—one in which everything hangs upon the performance of the operation indicated; the adequacy of movement as a connecting link, or real adjustment of the thing meaning and the thing meant. Generalising from the instance, we get the following definition: An experience is a knowledge, if in its quale there is an experienced distinction and connexion of two elements of the following sort: *one means or intends the presence of the other in the same fashion in which itself is already present, while the other is that which, while not present in the same fashion, must become so present if the meaning or intention of its companion or yoke-fellow is to be fulfilled through an operation it sets up.*

II.

We shall now return briefly to the question of knowledge as acquaintance, and at greater length to that of knowledge as assurance, or as fulfilment which confirms and validates. With the recurrence of the odour as meaning something beyond itself, there is apprehension, knowledge *that*. One may now say I know what a *rose* smells like; or I know what *this* smell is like; I am acquainted with the rose's agreeable odour. In short, on the basis of a present quality, the odour anticipates and forestalls some further trait.

We have also the conditions of knowledge of the confirmation and refutation type. In the working out of the situation just described, in the transformation, self-indicated and self-demanded, of the tensional into a harmonious or satisfactory situation, fulfilment *or* disappointment results. The odour either does or does not fulfil itself in the rose. The smell as intention is borne out by the facts, or is nullified. As has been already pointed out, the subsequent experience of the fulfilment type is not primarily a confirmation or refutation. Its import is too vital, too urgent to be reduced *in itself* just to the value of testing an intention or meaning.[1] But it gets *in reflexion* just such verificatory significance. If

[1] Dr. Moore, in an essay in *Contributions to Logical Theory* has brought out clearly, on the basis of a criticism of the theory of meaning and fulfilment advanced in Royce's *World and Individual*, the full consequences of this distinction. I quote one sentence (p. 350): "Surely there is a pretty discernible difference between experience as a purposive idea, and the experience which fulfils this purpose. To call them both 'ideas' is at least confusing." The text above simply adds that there is also a discernible and important difference between experiences which, *de facto*, are purposing and fulfilling (that is, are seen to be such *ab extra*), and those which are meant to be such, and are found to be what was meant.

the smell's intention is unfulfilled, the discrepancy may throw one back, in reflexion, upon the original situation. Interesting developments then occur. The smell meant a rose; and yet it did not (so it turns out) mean a rose; it meant another flower, or something, one can't just tell what. Clearly there is *something else* which enters in; something else beyond the odour as it was first experienced determined the validity of its meaning. Here then, perhaps, we have a transcendental, as distinct from an experimental reference? *Only if this something else makes no difference, or no detectable difference in the smell itself.* If the utmost observation and reflexion can find no difference in the smell quales which fail and those which succeed in executing their intentions, then there is an outside controlling and disturbing factor, which since it is outside of the situation, can never be utilised in knowledge; and hence can never be employed in any concrete testing or verifying. In this case, knowing depends upon an extra-experimental or transcendental factor. But this very transcendental quality makes both confirmation and refutation, correction, criticism, of the pretensions or meanings of things, impossible. For the conceptions of truth and error, we must, upon the transcendental basis, substitute those of *de facto* success or failure. Sometimes the intention chances upon one, sometimes upon another. Why or how, the gods only know—and they only if to them the extra-experimental factor is not extra-experimental, but makes a concrete difference in the concrete smell. But fortunately the situation is not one to be thus described. The factor which determines control of intention as to its success or failure, does institute a difference in the thing which means the object, and this difference is detectable, once attention, through failure, has been called to the need of its discovery. At the very least, it makes this difference: the smell is infected with an element of uncertainty of meaning —and this as a part of the thing experienced, not for an observer. This additional *awareness* will at least bring about an additional *wariness*. Meaning is more critical, and operation more cautious.

But we need not stop here. Attention may be fully directed to the subject of smells. Smells may become the object of knowledge. They may take, *pro tempore*,[1] the place

[1] The association of science and philosophy with leisure, with a certain economic surplus is not accidental. It is practically worth while to postpone practice; to substitute theorising, to develop a new and fascinating mode of practice. But it is the excess achievement of practice which makes this postponement and substitution possible.

which the rose formerly occupied. By reason of disappointment, the person may turn epistemologist. He may then take the discrepancy, the failure of the smell to execute its own intended meaning, as a wholesale, rather than as a specific fact: as evidence of a contrast in general between things meaning and things meant, instead of as evidence of the need of a more cautious and thorough inspection of odours and execution of operations indicated by them. One may then say: Woe is me; smells are only *my* smells, subjective states existing in an order of being made out of consciousness, while roses exist in another order made out of a radically different sort of stuff; or odours are made out of 'finite' consciousness as their stuff, while the real things, the objects which fulfil them, are made out of an 'infinite' consciousness as their material. Hence some purely metaphysical tie has to be called in to bring them into connexion with each other. And yet this tie does not concern knowledge; it does not make the meaning of one odour any more correct than that of another, nor enable us to discriminate relative degrees of correctness. As a principle of control, this transcendental connexion is related to all alike, and hence condemns and justifies all alike.[1]

It is interesting to note that the transcendentalist almost invariably first falls into the psychological fallacy; and then having himself taken the psychologist's attitude accuses the empiricist whom he criticises of having confused mere psychological existence with logical validity. That is, he begins by supposing that the smell of our illustration (and all the cognitional objects for which this is used as a symbol) is a purely mental or psychical state, so that the question of logical reference or intention is the problem of how the

[1] The belief in the *metaphysical* transcendence of the object of knowledge seems to have its real origin in an *empirical* transcendence of a very specific and describable sort. The thing meaning is one thing; the thing meant is another thing, and is (as already pointed out) a thing presented as not given in the same way as is the thing which means. It is something *to be* so given. No amount of careful and thorough inspection of the indicating and signifying things can remove or annihilate this gap. The *probability* of correct meaning may be increased in varying degrees—and this is what we mean by control. But absolute certitude can never be reached except experimentally—except by performing the operations indicated and discovering whether or no the intended meaning is fulfilled *in propria persona*. In this experimental sense, truth or the object of any given meaning is always beyond or outside of the cognitional thing which means it. Error as well as truth is a function of knowing. But the non-empirical account of this transcendent (or beyond) relationship puts *all* the error in one place (*our* knowledge), and *all* the truth in another (absolute consciousness or else a thing-in-itself).

merely mental can 'know' the extra-mental. But from a strictly empirical point of view, the smell which knows is no more merely mental than is the rose known. We may, if we please, say that the smell when involving conscious meaning or intention is 'mental,' but this term 'mental' does not denote some separate type of existence—existence as a state of consciousness. It denotes only the fact that the smell, a real and non-psychical object, now exercises an intellectual function. This is, as James has pointed out, an *additive* relation—a new property possessed by an non-mental object, when that object, occurring in a new context, assumes a further office and use.[1] Will not some one who believes that the knowing experience *is aborigine* a strictly "mental" thing, explain how, as matter of fact, it does get a specific, extra-mental reference, capable of being tested, confirmed or refuted? Or, if he believes that this way of viewing it as merely mental, does not express its own experienced quality, but only the form it takes for psychological analysis, will he not explain why he so persistently attributes the inherently "mental" characterisation of it to the empiricist whom he criticises? An object *becomes* meaning when used empirically in a certain way; and, under certain circumstances, the exact character and worth of this meaning *becomes* an object of solicitude. But the transcendental epistemologist with his purely psychical "meanings" and his purely extra-empirical "truths" appears to assume a *Deus ex Machina* whose mechanism is preserved a secret.

Observing the futility of such a method, one may turn scientist, and then epistemologist only as logician, only, that is, as reflecting upon the nature and implications of the scientific process. One might, that is, observe the cases in which odours mean other things than just roses, might voluntarily produce new cases for the sake of further inspection, and thus come to account for the cases where meanings had been falsified in the issue; to discriminate more carefully the peculiarities of those meanings which the event verified, and thus to safeguard and bulwark to some extent the employ of similar meanings in the future. The presupposition here is clearly that odour, person and rose are elements in one and the same real world (or, what is the same thing, of the constitution of one object), and that accordingly specific and

[1] "Does 'Consciousness' Exist?" *The Journal of Philosophy, Psychology and Scientific Methods*, vol. i., p. 480. The whole article should be consulted. It has, of course, attracted much attention; but its full logical bearing, in cutting under the charge of psychologism as mere subjectivism, does not seem to me to have been appreciated as yet.

determinable relations exist among the elements. The smell will present itself indifferently as a condition of the organism or as a trait of some other object, the rose; or, in exceptional cases, to be referred exclusively to the organism, as initiator of the operations indicated by the odour and terminated in the rose, while as defining the goal of operations and fulfilment of meaning it is a property of the object. To smells as themselves objects of cognition, many other traits and relations similarly attach themselves—all having reference, sooner or later, to the more effective and judicious use of odours as cognitionally significant of other things.

In this reflective determination of things with reference to their specifically meaning other things, experiences of fulfilment, disappointment and going astray inevitably play an important and recurrent *rôle*. They also are realistic facts, related in realistic ways to the things that intend to mean other things and to the things intended. When these fulfilments and refusals *are reflected upon* in the determinate relations in which they stand to their relevant meanings, they obtain a quality which is quite lacking to them in their immediate occurrence as just fulfilments or disappointments; *viz.*, the property of affording assurance and correction—of confirming and refuting. Truth and falsity are not properties of any experience or thing, in and of itself or in its first intention; *but of things where the problem of assurance consciously enters in. Truth and falsity present themselves as significant facts only in situations in which specific meanings and their already experienced fulfilments and non-fulfilments are intentionally compared and contrasted with reference to the question of the worth, as to reliability of meaning, of the given meaning or class of meanings.* Like knowledge itself, truth is an experienced relation of characteristic quality of things, and it has no meaning outside of such relation, any more than such adjectives as comfortable applied to a lodging, correct applied to speech, persuasive applied to an orator, etc., have worth apart from the *specific* things to which they are applied. It would be a great gain for logic and epistemology, if we would always translate the noun 'truth' back into the adjective 'true,' and this back into the adverb 'truly'.[1]

So far as this type of reflexion supervenes, we have know-

[1] It is the failure to grasp the coupling of truth of meaning with a *specific* promise, undertaking or intention expressed by a cognitional thing which underlies, so far as I can see, the criticisms passed upon the experimental or pragmatic view of truth. It is the same failure which is responsible for the wholly *at large* view of truth which characterises the absolutists.

ledge of the critical or scientific type. We have things which claim to mean other experiences; in which the trait of meaning other objects is not discovered *ab extra*, and after the event, but is part of the thing itself. This trait of the thing is as realistic, as specific, as any other of its traits. It is, therefore, as open to inspection and determination as to its nature, as is any other trait. Moreover, since it is upon this trait that assurance (as distinct from accident) of fulfilment depends, an especial interest, an absorbing interest, attaches to its determination. Hence the scientific type of knowledge and its growing domination over other sorts.

We *employ* meanings in all intentional constructions of experience—in all anticipations, whether artistic, utilitarian or technological, social or moral. The success of the anticipation is found to depend upon the character of the meaning. Hence the stress upon a right determination of these meanings. Since they are the instruments upon which fulfilment depends *so far as that is controlled* or other than accidental, they become themselves objects of surpassing interest. For all persons at some times, and for one class of persons (scientists) at almost all times, the determination of the meanings employed in the control of fulfilments (of acting upon meanings) is central. The experimental or pragmatic theory of knowledge explains the dominating importance of science; it does not depreciate it or explain it away.

Possibly pragmatic writers are to blame for the tendency of their critics to assume that the practice they have in mind is utilitarian in some narrow sense, referring to some preconceived and inferior use—though I cannot recall any evidence for this admission. But what the pragmatic theory has in mind is precisely the fact that all the affairs of life which need regulation—*all values of all types*—depend upon utilisations of meanings. Action is not to be limited to anything less than the carrying out of ideas, than the execution whether strenuous or easeful, of meanings. Hence the surpassing importance which comes to attach to the careful, impartial construction of the meanings, and their constant survey and resurvey with reference to their value as evidenced by experiences of fulfilment and deviation.

That truth means *truths*, that is, specific verifications, combinations of meanings and outcomes reflectively viewed, is one may say the central point of the experimental theory. Truth, in general or in the abstract, is a just name for an experienced relation among the things of experience: that sort of relation in which intents are retrospectively viewed from the standpoint of the fulfilment which they secure

through their own natural operation or incitement. Thus the experimental theory explains directly and simply the absolutistic tendency to translate concrete true things into the general relationship, Truth, and then to hypostatise this abstraction into identity with real being, Truth *per se* and *in se*, to which all transitory things and events—that is, all experienced realities—are only shadowy futile approximations. This type of relationship is central for man's will, for man's conscious endeavour. To select, to conserve, to extend, to propagate those meanings which the course of events has confirmed, to note their peculiarities, to be in advance on the alert to note them, anxiously to search for them to substitute them for meanings which eat up our energy in vain, defines the aim of all our rational effort and the goal of all legitimate ambition. The absolutistic theory is the transfer of this moral or voluntary law of selective action into a quasi-physical (that is, metaphysical) law of indiscriminate being. Identify metaphysical being with adequately *significant excellent* being—that is, with those relationships of things which, in our moments of deepest insight and largest survey, we would continue and reproduce—and the experimentalist, rather than the absolutist, is he who has a right to proclaim the supremacy of Truth, and the superiority of the life devoted to Truth for its own sake. But to read back into the order of things which exists without participation of our reflexion and aim, the quality which defines the purpose of our thought and endeavour is at one and the same stroke to mythologise reality and deprive the life of thoughtful endeavour of its reason for being.

II.—THE NEW REALISM AND THE OLD IDEALISM.[1]

By J. S. Mackenzie.

The title of this paper is somewhat ambiguous, since the term 'Realism' is commonly used in two quite distinct senses—as the antithesis of Idealism and as the antithesis of Nominalism. It happens, however, that the recent movement of thought that I have now in mind has a tendency to be realistic in both senses of the word. The writers to whom I refer treat all the objects that come before our consciousness—all 'ideas' in the wide Lockeian sense of the term—as containing or having a reality independent of the consciousness to which they are presented; and among these ideas those that Locke calls 'abstract general ideas' are included. In fact, the school of thought to which I refer is the direct antithesis of that of Berkeley, with regard both to his subjectivism and to his nominalism.[2] The only important point on which it agrees with Berkeley is in the contention that the Lockeian distinction between primary and secondary qualities cannot be maintained as ultimate. Before proceeding to consider this point of view more particularly, it may be well to make some general remarks on the significance of the movement that it represents.

A generation ago the tendency was for all serious specula-

[1] An address to Philosophical Societies at Cardiff, Birmingham and Glasgow. I have thought it best to leave this paper in the form of a lecture, as it does not claim to be a systematic discussion, but only a suggestion of points for consideration.

[2] This may seem to be contradicted by the fact that some of the leading supporters of the new Realism (especially Mr. Moore and Mr. Russell) connect it with an extremely nominalistic type of Logic, like that of Antisthenes. This Logic, however, seems to be quite capable of recognising types such as those of Plato. What it really excludes is not the Platonic theory of Ideas, but only that particular aspect of it which is expressed by the term *κοινωνία*. With this logical aspect of the new Realism I do not deal in the present paper. For a somewhat searching discussion of it, I may refer to the very valuable little book by Mr. H. H. Joachim on *The Nature of Truth*, chap. ii.

tive philosophy in this country to be, in a broad sense, idealistic, or at least—as Sidgwick would have preferred to call it—"mentalistic". It was only a question between a sensationalist and an intellectualist form of Idealism. The discussion turned on the distinction between Nominalism and Conceptualism—or, as Dr. Bosanquet very happily put it, on the true theory of Identity. Against this there was hardly anything to be set but the somewhat crude materialism that was generally supposed to be—and sometimes actually was—characteristic of the students of the natural sciences, and the still cruder spiritualism that was associated with popular religion. One very unfortunate result of this state of affairs was to create a general appearance of antagonism between the students of natural science and the students of philosophy, except so far as Agnosticism supplied them with a *via media*—a reconciliation through mutual confession of ignorance with regard to the nature of ultimate reality, a confession which some conceived as giving satisfaction to religion as well.

Recently, however, the whole situation has been considerably altered. The students of the physical sciences have to a large extent changed their attitude. They are more willing than formerly to recognise the limitations of their modes of explanation; and some of the most distinguished of them, such as Sir Oliver Lodge and Principal Lloyd Morgan—representing respectively the purely physical and the biological sciences—are showing a disposition to accept idealistic interpretations as more ultimate than those that are provided by the special sciences themselves.[1] On the whole, therefore, the exponents of the natural sciences are not to be reckoned among the enemies of idealism; and it can hardly be said that, among present scientific thinkers, there is any serious supporter of a purely materialistic explanation of the universe. Materialistic interpretations are at any rate practically always rounded off with a confession of ultimate ignorance and mystery,—*i.e.*, they are little more than a form of scepticism. Idealism might thus appear to have a free field for its interpretations; and, as the old antagonism between poetry and philosophy, of which Plato speaks, has long since been forgotten, and the newer one between philosophy and religion is beginning to disappear, it might almost be thought that idealism had become completely triumphant, and that a universal harmony had

[1] Perhaps I ought to add that I do not here express or imply any opinion as to the value of the particular ways in which such interpretations have been put forward or suggested.

been attained. But in recent years this harmony has been rudely disturbed by two new antagonists, more formidable than many of those that went before them—Pragmatism, on the one hand, and a new type of Realism, on the other.

The former of these has been distinctly the more noisy, and has attracted the larger share of attention; but the latter is perhaps intrinsically the more interesting and important and is gradually making its way to the front. The one takes up a more purely subjective attitude than that of idealism, and indeed opposes a pure subjectivism against all attempts at an objective construction. The other is more objective than idealism, and opposes an adamantine rock of objectivity against all attempts at idealistic interpretation. Pragmatism says—to put it broadly—that our world is what we arbitrarily make it for ourselves. It is a variant on the *homo mensura* of Protagoras, a new form of scepticism, differing from the old through its being based on a recognition of the volitional character of the human consciousness, rather than on a recognition of its sensational character. The new Realism, on the other hand, maintains that our world is simply made for us and presented to us—that it is not a construction, but a datum. Both views seem to me, I may as well say at once, to err—the one by not sufficiently recognising the objective conditions of human choice, the other by over-emphasising the objective conditions to which we are subject. But it is only with one of these points that I am directly concerned in the present paper.

Pragmatism has been a good deal discussed within the last year or two; and, though I am far from thinking that its interest is exhausted, yet I am inclined to believe that just at present the walls of Jericho—as Mr. Bradley has called them—are in less danger from the blasts of that particular horn than from the steady undermining of the other party. Moreover, I believe that idealists have really more to learn from the new Realism than they have from Pragmatism. Pragmatism, as it seems to me, does little more than repeat, with one-sided exaggeration, a point that was on the whole sufficiently brought out by Kant, and that most idealists have learnt from him. Personally, at any rate, I think I have never failed to acknowledge what seems to me to be the small element of truth in their main contention—*viz.*, that we could never make any progress in life or thought if we did not believe before we are able to prove; and that in some important matters the proof must always be very incomplete and tentative. The new Realists are also in the main, like the Pragmatists, empha-

sising a point that is to be found in Kant; but it is one that is found only in the second edition of his *Critique*, and one that he never quite succeeded in making clear, and that most succeeding idealists have perhaps not sufficiently appropriated. I believe that the attempt to understand this point may lead us to a truer conception of what Idealism properly means.

The new Realism may seem at first sight to convinced idealists—like Protection in economics—to be a return to an exploded superstition. It may seem to be merely the revival of a crude materialism, like that which prevailed among the early Greek philosophers, before any real epistemological reflexion had set in; or of the somewhat more refined conception of matter that we find among the early Cartesians, or in the so-called philosophy of Common Sense. But further reflexion will, I think, convince us that it is no mere revival of past errors, nor even simply a new error, but an attempt to deal with a genuine difficulty, in the form in which it is presented by recent idealistic speculation. It is directed against subjective Idealism; and its real value is to be found in what may, I trust, prove to be the final laying of that obdurate spectre.

There are many recent writers who have sought to develop a realistic doctrine in the sense that I am now seeking to indicate. I might instance the profound (if somewhat tantalising) discussions of Adamson, or the more recent papers by Profs. Stout[1] and Alexander; and I believe that a great deal of what has been said, especially by the last two, is traceable, directly or indirectly, to the very able and suggestive writings of Avenarius. But there is no one who seems to me to have put the main points with more clearness, directness, and force—and certainly none who has pushed them more ruthlessly to their conclusion—than Mr. G. E. Moore; and in what follows I have his statement of the case more directly in mind than that of any one else.[2] It is not my intention, however, to follow his arguments closely. My object is not to criticise any particular writer, but rather to bring out what seems to me important and valuable in the general view to which I refer.

[1] Prof. Stout has, as I think, both stated the realistic position in its most intelligible form and also indicated most successfully how it can be reconciled with idealism.

[2] His *Refutation of Idealism* is what I have chiefly in view, but I have also made use of his *Principia Ethica*, nor have I been entirely unmindful of some applications of his ideas by Mr. Russell in his *Philosophy of Leibniz* and in his *Principles of Mathematics*.

What I shall try to do, then, is, first of all, to state Mr. Moore's main point, as I understand it; then to consider what elements of truth and of falsity are contained in it; and finally to discuss its significance for those who seek to maintain an idealistic position.

Mr. Moore seems to regard all modern Idealism as resting ultimately on Berkeley's '*Esse* is *percipi*'; and he conceives that, by finally subverting this position, he makes an end, not indeed of idealism, but of the only basis on which modern idealism has been supported; and, perhaps he would add, the only basis on which it can be supported.

Now, I may say at once that, with regard to British idealism at least, this view seems to me to contain a very large element of truth, though it is by no means the whole truth. Most British idealists begin from the subjective side; though they usually end—even Berkeley does so—by, to a considerable extent, renouncing their subjectivity. But, by proceeding in this way, they leave the impression—and often, I am afraid, it is a quite correct impression—that the real basis of their position is subjective, that '*esse* is *percipi*' is in the end their most fundamental conviction. This is, I think, due in the main to the predominant place that has been occupied by introspective psychology in British philosophy.[1] The growth of the more genetic method of studying psychology is gradually introducing a different way of thinking.

If, for instance, we take T. H. Green as a typical representative of modern British idealism, we find that his basis is in the main a subjective one. I cannot of course enter into any examination of his position here; and it is difficult to do justice to it in a brief summary. But on the whole it seems true to say that his point of view is not very widely removed from that of Berkeley. The difference is mainly that he begins, where Berkeley leaves off, with an intellectual, as distinguished from a perceptual presentation of his case.[2] Now, I admit that this distinction is in the end

[1] The use of 'psychological hedonism' as the basis for an ethical system might be profitably compared with this. On the other hand, it may be noted that the logic by which Sidgwick sought to show that pleasure is the only ultimate good, is very similar to the logic of Mr. Moore.

[2] See especially his Introduction to Hume, §§ 184-185. 'A relation is not contingent with the contingency of feeling. It is permanent with the permanence of *the combining and comparing thought which alone constitutes it.* . . . Of such a doctrine Berkeley is rather the unconscious forerunner than the intelligent prophet. . . . Is the idea, which is real, according to him a feeling or a conception? Has it a nature of its own, consisting simply in its being felt, and which we afterwards for purposes

a fundamental one, and destroys the subjective position; but I think it is true that Green does not really succeed, much more than Berkeley does, in making its fundamental character apparent. It is clear that the world for Green is an intellectual construction, not a perceptual datum—as at first it appears to be for Berkeley; but it still appears to be a construction that is completely carried on within some individual mind, or, at any rate, within some quasi-individual mind.[1]

The more recent system of Mr. Bradley has in some respects a much more objective aspect. His repudiation of the ballet of bloodless categories is familiar to every one; and his criticism of the Self goes far to destroy subjectivity. Yet, on the other hand, he is on some fundamental points far more decidedly subjective than Green, or perhaps than any other prominent representative of idealism. Certainly by his constant appeal to 'experience,' as at once the starting-point and the goal in the search for reality, he gives to his philosophy a subjective turn from which he is never quite able to free it. The world for Mr. Bradley is a straightened out experience, but still it is an experience, and nothing more; and, indeed, the most purely subjective aspect of experience—mere feeling—seems in the end to be for Mr. Bradley its most important and significant aspect.[2] Similar remarks apply, though with some qualifications, to the type of idealism set forth in Prof. Taylor's *Elements of Metaphysics*.

Now, it is against all such tendencies in philosophy that the new Realism lodges its protest. The world that we know, it urges, is not something in the mind, but something that the mind apprehends. We know the world before we know the mind and what is in it; or at least we become gradually aware of these two aspects of reality through what is intrinsically the same process. Now, this contention can hardly be said to be a novelty in modern philosophy. The main point in it is that which was urged by Kant in his 'Refutation of Idealism,' and which is constantly urged

of our own consider in various relations; or does the nature consist only in relations, which again imply the action of a mind that is eternal—present to that which is in succession, but not in succession itself?'

[1] By calling his mind 'eternal' or 'timeless,' he no doubt makes it cease to be a mind in any ordinary sense. But still he seems to imply that we are somehow to figure it to ourselves as being a mind—*i.e.* a consciousness.

[2] Some interesting comments by Prof. Henry Jones on this aspect of Mr. Bradley's philosophy will be found in the *Hibbert Journal* for April, 1906.

by at least one of the leading representatives of modern Idealism—Dr. Edward Caird.[1] It can only be supposed to tell against Idealism in so far as Idealism is understood to rest upon the principle that '*esse* is *percipi*'. Now, what I wish to maintain is that Idealism, when its meaning is rightly understood—Idealism, as we find it put forward by its best exponents, such as Plato among the ancients and Hegel among the moderns—does not depend, even in the slightest degree, upon the principle that '*esse* is *percipi*'. I would even go farther, and maintain that all idealism worthy of the name—including even that of Berkeley himself—depends upon the absolute rejection of that principle. In order to bring this out, however, it is necessary to consider a little more precisely in what sense the objectivity of the world of our experience is to be understood.

Mr. Moore's position, as I understand it, will here afford us a convenient starting-point. He draws a sharp distinction between consciousness and the objects that are set before it, representing each as having an existence quite independent of the other. Thus, if I see a tree, there is the tree, on the one hand, and my consciousness of it, on the other. But, equally, if I feel hunger, there is hunger, on the one hand, and my feeling of it, on the other. If I think that two and two make four, there is the truth of two and two making four, on the one hand, and my consciousness of it, on the other. Even if I am simply pleased, this experience may be analysed into the two quite distinct elements, pleasure and my feeling of it.[2]

Put in this way, the position is a highly paradoxical one; and I do not think that it can be really defended against some very obvious criticisms. It is rightly urged against it, in particular, that we know nothing of a consciousness divorced from all objective reference. To affirm such an

[1] See his book on Kant, *passim*; and *cf.* his recent paper on 'Idealism and the Theory of Knowledge' in the *Proceedings of the British Academy*. The following sentences from his book on Kant may be more particularly noted. 'Properly speaking, ideas cannot be treated as states of an individual subjectivity, but only sensations; for ideas imply a reference to the "I think" on the one side, and to the object on the other. An idea always stands for something, is a symbol of something else than itself, to the ego that has the idea. But for that reason, it must be contemplated as other than a state of the subject for which it is' (vol. i., pp. 640-641). 'Idealism, in the proper sense—the doctrine that the reality of the material object lies ultimately in its necessity as an element in the evolution of spirit' (p. 644). These passages really sum up all that I have to say in this paper.

[2] This last point is brought out, with special emphasis, in the *Principia Ethica*.

existence is to attempt to substantiate what we know only as an aspect of our experience. It is the *cogito* of Descartes carried to an even more extreme refinement of abstraction. Certainly, pain, hunger, the colour yellow, a tree, a triangle, an axiom of geometry, a moral requirement, an article of religious faith, a poetic ideal, all contain something which is of the nature of an objective material set before our consciousness; but what would that consciousness be, apart from such objective material? When I am conscious of yellow, the yellow is certainly something of which I am conscious; and it is something of which somebody else might be conscious. Nevertheless, it is surely not true that in this fact of experience there is consciousness + yellow. If you remove the yellow, you remove the consciousness as well. This has been already urged against Mr. Moore; and it seems to me so obvious, on reflexion, that I do not think it necessary to press it further.[1]

But the next point is this. It seems clear, as I have just stated, that, in the experience of yellow, if you remove the yellow, you remove the consciousness. Now, can we say, in like manner, that, if you remove the consciousness, you remove the yellow? This is the really crucial question. And if it is raised specifically in such a case as that of yellow, the right answer is not at once apparent. On the one hand it may be urged that, if we try to think of a yellow which is not the experience of some individual consciousness, we do not seem to be able to attach any meaning to it. Yellow is a colour: a colour is something seen. What could it possibly be, then, if it were not seen? On the other hand, I seem to be able to identify the yellow that I see to-day with that which I saw yesterday, though the two experiences as such are quite distinct; and it even seems to be possible to compare my apprehension of yellow with that of some one else, and to pronounce that they are the same or different. On these grounds it may be urged that I can distinguish the yellow that I experience as something objective and distinct from the fact that I experience it. Perhaps, however, the solution of the problem will become more apparent if we consider instances somewhat different from that of yellow. Let us try two extremely different types of cases. Let us take pleasure, on the one hand, and an axiom of geometry on the other.

[1] I may refer, however, to the paper by Mr. C. A. Strong in MIND, April, 1905, entitled, 'Has Mr. Moore Refuted Idealism?' where this aspect of the question seems to me to be very well stated.

In the former case, it seems clear, in spite of both Plato[1] and Mr. Moore, that there is no meaning in speaking of pleasure except as the experience of some individual consciousness. It is true, indeed, that I can think of pleasure without having it; and this fact seems, at first sight, to present considerable difficulty; for it seems to imply that we can represent pleasure to ourselves by means of some other characteristic than that of its being felt. This is a point to which I intend to return. Setting this aside for the present, it seems to me that there is no doubt that we can only think of a pleasure which is not directly present to us as a past or future pleasure of our own or as the pleasure of some other sentient being. A mountain-peak which is inaccessible to us is, none the less, a mountain-peak. The other side of the moon, which we cannot see, is as much of a reality for us as that which we can see. Perhaps also there is some sense in which it can be maintained that a colour which no one can see is a real colour; but I cannot find any intelligible meaning in the statement that a pleasure which is quite unattainable by any one is a real pleasure.

In the case of a geometrical axiom the conditions are very different. Take, for instance, the statement—'If equals are added to equals, the wholes are equal'. Can it be properly said that the judgment here expressed is something that exists in any one's mind? Certainly, when any one discovers the truth of it for the first time, or recalls it to his recollection, or tries to explain it to some one else, some psychical process is taking place in his mind. But is that psychical process the judgment? It seems clear that it cannot be; for the judgment is the same for every one who understands it, whereas the psychical process is different every time the judgment is formed. It would seem, therefore, that in this case we have an objective content that is distinguishable from the subjective fact of experience.

But this, you may say, is nothing more than the familiar distinction between an idea as fact and an idea as meaning, which is so much emphasised by Mr. Bradley in his Logic, and which is applied in so enlightening a way in Prof. Stout's Psychology. Certainly, I do not claim that it is anything more than this; but I doubt whether, in spite of its familiarity, all that is involved in it is often quite clearly realised. I doubt even whether Mr. Bradley himself always keeps it

[1] Aristotle, as well as Plato, seems to give some countenance to the view that pleasure is separable from the consciousness of it. He recognises, that is to say, like Plato, a distinction between real pleasure and the appearance of pleasure.

sufficiently before him in the course of his metaphysical speculations. Nor do I think it easy to do so; for the distinction is really one of considerable difficulty; and I believe it may be worth while to give a little more time to its elucidation. Let us consider, for instance, what it would mean if applied to the case of colour, of which we were previously speaking. In the case of pleasure, broadly speaking, we mean nothing more than what we experience. In the case of a geometrical axiom, what we mean is almost completely separable from what we experience. In the case of colour, the two distinguishable aspects would seem to be more evenly balanced. We may simply experience yellow, and in that case it is nothing more than what we experience; and each one of us may be said, in that sense, to have a yellow of his own. But if we go on to name the colour and discriminate it from other colours, we are beginning, with a more or less clear consciousness, to give it a place within a relational scale; and that scale has an objective significance, just as a geometrical axiom has. It is not simply something that we experience, but something that we mean.

Now this is what I wish to emphasise. There is such a thing as meaning, and meaning always carries us beyond what is immediately before our consciousness. This is, I think, a point that is, in general, not sufficiently recognised even by most of those philosophers who at times acknowledge its truth. Most of us no doubt recognise it readily enough in some of those instances that Dr. Stout has made familiar to almost all philosophical students. In the case of an animal instinct, for example, most of us are readily prepared to admit that the animal means a great deal more than it consciously realises to itself; and most of us have learned to repeat Emerson's line about the cathedral builders —'They builded better than they knew'—and to acknowledge a certain truth in it. But, with all this, I fancy it remains true that most of us are apt to suppose that, in the developed human consciousness at any rate, everything that we mean is, in the phrase of Descartes, a 'clear and distinct idea,' standing in our minds like a picture in its frame. This is the view, as I think, that we must learn to reject. Descartes, as we all know, even speaks familiarly of the idea of the infinite, as if it were actually to be found in our minds in a sort of bodily form. Most of us would probably recognise that this at least is untrue, that the idea of the infinite, at least as understood by Descartes, is of the nature of an ideal, something that we may mean but that we cannot formally realise to ourselves. It does not require very

much further reflexion to see that all such conceptions as those that are put before us by Descartes, go beyond anything that is contained in our consciousness as an individual experience. This, I take it, was what Malebranche meant by his famous declaration that we 'see all things in God,' or, as we should express it in more modern phraseology, that we refer all our ideas to an objective system. And it is no doubt essentially the same point that Green has in his mind when he speaks of an 'eternal consciousness'; but this way of speaking of it is an attempt to represent it as being subjective after all.

Even Berkeley came to see this to some extent in the end, and qualified his '*esse* is *percipi*' by recognising that it does not apply to those things of which we have what he calls 'Notions'—*i.e.* those conceptions that cannot be directly pictured or experienced, but with reference to which it can be said, as he himself expresses it, that we 'understand what they mean'. And this, I think, is what all genuine Idealism must recognise. Indeed, I am tempted here to put forward another point, though possibly it is not an altogether fair one; to affirm, namely, that, so far from its being true that Idealism rests on the principle that '*esse* is *percipi*,' it would be much truer to say that it is Mr. Moore and the New Realists who rest upon that principle. It is true that they begin by inverting it. Their doctrine is not that '*esse* is *percipi*'; but they do at least come very near to the doctrine that '*percipi* is *esse*,' *i.e.* that an independent reality is to be ascribed to everything that appears as an immediate object of consciousness, whether it be pleasure or hunger or colour or an individual material thing or a general concept or a statement of relations. In philosophy, as in love, things often go by contraries. The man who preaches 'the will to believe' is generally at heart a sceptic; indeed, all our most recent dogmatism would seem to rest on 'philosophic doubt'; and so the new realist seems to be in truth one who is persuaded that things are just as he apprehends them.[1] The idealist, on the other hand, maintains that what is directly perceived is never in itself real; and that even the object brought before us in conceptual thinking is only a partial suggestion of reality. Reality for the idealist—speaking generally—is the concrete whole, which is never an object of direct apprehension, and perhaps never can be.

This brings us back, you may say, to the point to which we previously referred—the distinction between the per-

[1] *Cf.* Joachim, *The Nature of Truth*, p. 55 *sqq.*

ceptual and the conceptual modes of apprehension—and, with that, to the old controversy between Nominalism and Conceptualism. But, in reality, the view that I am now urging carries us a good deal farther than that. It is not merely in the fully developed concept that we have to recognise the presence of meaning, but rather throughout the whole field of our experience. If we were limited to that which is contained within our immediate experience, our world would be practically a blank. It would be simply Hume's stream of perceptions that succeed one another with inconceivable rapidity. It would have no connexion, no identity, no continuity.

But now a fundamental difficulty may be raised. It is all very well, it may be said, to speak of a world of meaning as carrying us beyond the world of psychical fact. But may not such a world be compared to a paper currency, or a general system of credit? Must it not be based, in the end, upon some sort of gold reserve? And what, it may be asked, can we possibly have in reserve but the immediate facts of our experience? This is essentially Hume's point; and it is this point that the modern realist and the modern idealist both have to meet. Both are opposed to the doctrine that '*esse* is *percipi*'; and this, it must be remembered, is essentially the doctrine of Hume, and is not really the doctrine of Berkeley at all. It is the doctrine of the sceptic, not that of the idealist. Berkeley no doubt seems to begin with it; and so perhaps do some more recent idealists. But even with Berkeley the doctrine that *esse* is *percipi* is almost immediately modified by the recognition that, in the case of conscious beings, *esse* is rather *percipere;* and in the end he comes at least very near to the affirmation that: for the Universe as a whole, *esse* is *intelligi*. His ultimate criterion of the truth of anything is that we can understand what it means; and this is really the criterion which every idealist, from Parmenides[1] downwards, seeks to adopt. It is the sceptic, not the idealist, who rests upon the rigid doctrine that *esse* is *percipi;* and realists and idealists are absolutely at one in waging war against this. Well, then, what we have to ask is, How is that doctrine to be finally refuted? Is it not true, according to my illustration, that we have to come back to it as a sort of gold reserve? Even Mr. Bradley, the protagonist of modern idealism in one of its senses—and, indeed, in a sense that apparently aims at being objective—

[1] In spite of Prof. Burnet's very instructive exposition, which I greatly appreciate, I still regard Parmenides as the founder of idealism.

sometimes seems to do so. The idea of space, he seems to tell us, must be extended; the idea of weight must be heavy; the idea of yellow must be coloured; the idea of agreeableness must be pleasant; and so on. Now, is all this true?

Well, I agree with our modern realists in believing that this is not true; and it is here, as I think, that they have been doing valuable service, by which idealists may profit. The idea of weight, it seems to me, is not heavy; nor that of space extended; nor that of yellow, in any full sense, coloured; and even that of agreeableness is not always directly pleasant. Rather, I should say, it is of the essence of every idea to go beyond itself. But how, you may ask, is it able to do this? I might simply retort, How is it able to avoid doing this? I cannot imagine what an idea would be that should not do this. But it may be more satisfactory to put the answer in the following way. An idea is essentially alive: it is not something purely statical. This I believe to be the element of truth in the view of those who emphasise the volitional aspect of our consciousness. All mind is of the nature of process, and is in its essence forward-looking. Our ideas are continually going on: as it has been said, they 'have hands and feet'. Now, when an idea is thoroughly alive, it is what we call an ideal: it is not simply what it is, but what it is aiming at. What we have chiefly to consider in such a case is, in Aristotle's phrase, its *το τὶ ἦν εἶναι*— 'what it essentially was,' or 'what it had in it to be'. Even the idea of a pleasure may be of this anticipatory character —a scheme, an outline, a suggestion, rather than a fully formed experience; and this, I think, is the solution of the difficulty that was raised a little time back.

Still, it may be urged, surely what we mean cannot at least be entirely foreign to what we experience. However we may press forward, we cannot 'leap off our own shadow'. Now, this also, I think, is true; and it is here, as I believe, that pure realism must in the end break down, and lead us on to a purified form of idealism. But let me try to make this point a little more definite.

It may help us a little here if we consider first some of the illustrations that are suggested by Mr. Bradley. Take the case of weight. It certainly does not seem to me that the idea of weight is heavy. I cannot find that the thought of a pound weight is any heavier than the thought of an ounce. Yet, on the other hand, I freely admit that I could not attach any meaning to weight at all if there were not something in my experience that enabled me to take hold of it. And what this is it is not, in the present instance, very

difficult to discover. I give meaning to weight by the help of my ideas of pressure, strain, and possibly some other sense experiences. But what again are we to say of these? Does the idea of pressure press? This also, I think, would hardly be quite true; but there is assuredly a sense element contained in it which forms the basis for what I mean by pressure. Something of the same sort may be said about extension. The idea of space does not seem to me to be extended; but I think we arrive at it by the help of the element of extensity which is contained in our tactual experiences; and I do not see how we could ever reach it without this element. Now, if we follow out the line of thought that is suggested by these illustrations, it seems to me that we shall be led, in the first instance, to a view that may be expressed by means of the previous figure. Our world of meaning may, rightly enough, be compared to a vast credit system, that carries us far beyond any gold reserve that we can call upon within the world of our direct experience; yet it is supported, in the end, by means of that reserve. Or, to drop this figure, which is not altogether a good one, we may say that the world of meaning would be quite unmeaning if it did not start from and return to a world of conscious experience. But what exactly does this mean, and what does it imply?

We may perhaps arrive at an answer to this by asking, What are the different ways in which the world of meaning may be interpreted? One way of course is that of Hume. We may say that it is entirely illusory, so far as it is not a direct reproduction of some fact of immediate experience. But I think it has been found—and, indeed, it was clearly enough seen by Hume himself—that this view not only makes knowledge impossible, but even makes it impossible to see how there can be any illusion of Knowledge. Another way is to say that we are driven by a natural impulse to affirm a world that we mean, as distinguished from one that we directly experience; and that we affirm it simply on the basis of our volition. This seems to be essentially the position of Pragmatism. But certainly the facts that we are concerned with, when we speak of meaning, carry us far beyond the region of actual volition. We surely do not will to apprehend weight and colour; and, indeed, it is difficult to see how we can will anything that we have not first experienced. Nor is it easy to understand how our volitions could arise without any ground, or be continued without any support. A third view is to say that in the world of meaning we apprehend a reality quite distinct from the

subjective world of our direct experience. This is practically what is said by all dualists; and our new realists say it in their own particular fashion—perhaps the best fashion. But such a view has plausibility only if we can maintain the sharp distinction between our consciousness in itself and that of which we are conscious; and this, as we indicated at the very outset, seems to be impossible. Now, there is, I think, only one other view that is open to us; and that is the view to which I have been seeking to lead up, *viz.*, that we are justified in affirming a world of meaning, but that it is a world that can only be interpreted in relation to conscious experience. This seems to me to be in the end the only view that is really intelligible.

Indeed, as far as I can see, our new realists do not even set up any definite alternative to this idealistic position. Mr. Moore professes to give us a refutation of idealism; but what he really gives is a refutation of scepticism—*i.e.*, a refutation of the view that *esse* is *percipi*. His only arguments against idealism appear to be (1) that it can only be proved by means of the doctrine that *esse* is *percipi*; and that, apart from this, it is a mere assumption; (2) that it is paradoxical, involving the rejection of some inevitable beliefs of common sense.

As regards the first of these, I have already urged that, so far from resting on *esse* is *percipi*, idealism rests rather on the rejection of this dogma. But, in order to meet Mr. Moore's point more completely, it is right that I should try to explain in what way I suppose an idealistic view of the world to be established.

In a certain sense, I am very ready to admit that the truth of idealism is incapable of proof. No ultimate presupposition of thought can be proved, in the sense of being deduced from something more ultimate and evident than itself; and the general nature of our universe seems to me to be such a presupposition. We evidently cannot rest it on anything like the '*cogito ergo sum*' or the 'clear and distinct ideas' of Descartes; nor, I fancy, can we establish it in any other way 'after the fashion of geometry'. Now it is a proof of this sort that Mr. Moore appears to desiderate; and in this sense I am perfectly willing to allow that no proof is forthcoming. But many things that most of us accept with considerable assurance are in the same position. Most of us believe that sugar is sweet, and that Shakespeare is a great poet; and few of us would feel any stronger conviction on these points if they could be set out in the form of a mathematical deduction. But, you may say, a philo-

sophical theory is in a different position. Well, no doubt it is; and, indeed, Shakespeare's poetry is in a different position from the sugar. But what I mean is that, in all cases, we can only prove things by the kind of proof that is appropriate to them—derivative things by showing from what they are derived, ultimate things by giving grounds for regarding them as ultimate. And, in the case of a philosophical theory, the only ultimate kind of proof that can be given is that the theory seems to make the universe intelligible to us, and that we cannot think of any alternative theory that does. But, you may object, can any idealistic view of the universe claim to be thoroughly intelligible? Are there not serious gaps in every attempted construction? Well, if you mean by this to ask whether there is any idealistic theory that enables us to explain every particular fact in the universe, then it must certainly be confessed that this is not the case; and, speaking for myself, I am enough of an agnostic to suspect that, in this present life at any rate, I am not likely ever to meet with such a theory. No one, I suppose, at the present time, expects any philosophy to do for us what Socrates is represented in the *Phædo* as saying that he had expected from Anaxagoras. "I imagined that he would tell me first whether the earth is flat or round; and then he would further explain the cause and the necessity of this, and would teach me the nature of the best and show that this was best; and if he said that the earth was in the centre, he would explain that this position was the best, and I should be satisfied with the explanation given, and not want any other sort of cause. And I thought that I would then go on and ask him about the sun and moon and stars, and he would explain to me their comparative swiftness, and their returnings and various states, active and passive, and how all of them were for the best." A philosophy which could explain all this might also be expected to tell us who was the author of the Letters of Junius, or why the present Government was put in power with the precise majority that it has. It would evidently be absurd to expect any system of Idealism to show the rationality of the universe in such a sense as this. Perhaps it is even true that there is no idealistic theory that makes the significance of every leading aspect of our experience thoroughly transparent. Even this degree of light I certainly do not expect speedily to attain. But what I do venture to maintain is, that it is quite possible to think out an idealistic interpretation which enables us to view the universe as a system that is intrinsically intelligible throughout; and, so

far as I can see, there is no other kind of interpretation that does enable us to do this.

This point, however, connects very closely with the second objection to idealism to which I have already referred. Mr. Moore and some others seem to think that idealism is open to objection on the ground that it is fundamentally paradoxical; and that some sort of realism is to be preferred to it on this account. Idealism, as Mr. Moore says, "is certainly meant to assert (1) that the universe is very different indeed from what it seems, and (2) that it has quite a large number of properties which it does not seem to have. Chairs and tables and mountains *seem* to be very different from us; but, when the whole universe is declared to be spiritual, it is certainly meant to assert that they are far more like us than we think. . . . When we say it is *spiritual* we mean to say that it has quite a number of excellent qualities, very different from any which we commonly attribute either to stars or planets or to cups and saucers." Now, if the contention that idealism is paradoxical merely means that it leads us to some new and unexpected conclusions, this can hardly be an objection to a philosophical theory; and of course Mr. Moore does not mean to imply that it is. But if it means that some aspects of our experience are made unintelligible by it—and this, I think, is what he wishes to suggest—then certainly the objection is a very serious one indeed, and brings us back to the point that we have just been considering. Now, in what way can it be urged that idealism has this result?

When we ask, what are the paradoxical conclusions to which idealism points, we generally find, I think, that they arise from confounding idealism with subjectivism. Berkeley's view—at least in his earlier statement of it—is, I think, really paradoxical. It does make it almost impossible—probably quite impossible—to give an intelligible account of the material system as we know it. But idealism, in the more objective sense, is certainly not open to this objection. For what is it that objective idealism asks us to believe?

Mr. Moore and some others seem to think that idealism asks us, as Hegel put it, to stand on our heads and view the world all topsy-turvy. There is surely no foundation for this. It is a sort of view that is sometimes put forward about physical science, as well as about idealism. Mr. Balfour, for instance—our modern Gorgias—in his well-known address to the British Association, referred pathetically to the way in which the physicist shows that our ordinary life is passed in a world of illusion. Of course there is some truth in this. But surely it is only true in

the sense that physical science convinces us that there are more things in heaven and earth than we are commonly aware of, not in the sense that any of the familiar objects of our knowledge are other than what we familiarly know them to be. Any advance in knowledge may be said, in the former sense, to convict us of a previous illusion—the discovery, for instance, that water, which seems so simple, is composed of oxygen and hydrogen; or that our earth, which seems so stable, revolves round the sun. But the former has not afflicted us with any fresh fear of drought; nor has the latter tended to depreciate the value of property. Now, it is just in the same sort of sense that idealism changes our view of the world around us. The idealist does not seek to rob any one of his sun and planets, nor even of his cups and saucers. To say that something is more than what it seems is not to say that it is not what it seems. When Shelley sings to the skylark :—

> Hail to thee, blithe spirit!
> Bird thou never wert,

he does not really mean to deny that the lark belongs to the class 'Aves'. Or, when Wordsworth blames Peter Bell, because 'a primrose by the river's brim' was to him only 'a yellow primrose,' he is not accusing him of an error in botany. Even the plainest of plain men are constantly recognising that things are not merely what at first sight they appear. An antiquarian is not as a rule a speculative philosopher; but cups and saucers are not merely cups and saucers for him. They may be specimens of rare china. For the mathematician, again, the rims of the cups and saucers may be circles. For the artist they may have all sorts of excellent qualities which the ordinary person does not detect in them. For the manufacturer they are the results of a certain process. Even for the tea-drinker they have a purpose; while the sociologist is well aware that their presence here at all can only be explained by the gradual development of the arts. If all these people have a right to deal with cups and saucers, and to show us that there is more in them than we see at first, why should the philosopher alone be warned off, as if he were 'a bull in a china shop'? Has not the philosopher as good a right as Browning to maintain that, not only cups and saucers, but all other things as well, can only be finally made intelligible when they are thought of as parts of a system to which life and intelligence are the key? May we not say with his Rabbi Ben Ezra :—

Look not thou down but up!
To uses of a cup,
The festal board, lamp's flash and trumpet's peal,
The new wine's foaming flow,
The Master's Lips a-glow!
Thou, heaven's consummate cup, what need'st thou with earth's wheel?

There is no real paradox, as I conceive, in such a view of the universe. But if we are to avoid a fatal paradox, we must be careful to understand it in the objective, and not in the subjective sense; and this is what our new realism may help us to do. We must not say, as Berkeley does, that cups and saucers and stars and planets exist in people's mind, or even in some hypothetical divine mind.[1] We must not even say, as Kant does, that time and space are only forms of our consciousness.[2] Personally, I am disposed even to add that we

[1] The somewhat ostrich-like expedient of attempting to solve philosophical difficulties by referring them to a divine consciousness has been a familiar one in modern speculation, since the time of Descartes; and it is still often, more or less explicitly, made use of. But it is surely evident that a truly conceptual object cannot, properly speaking, be contained in a divine mind, any more than in a human mind, unless the divine mind is something wholly different from anything that we understand by a mind. If a divine mind means a mind that is completely developed—a mind to which the universe has become perfectly transparent—such a mind would still, as far as I can see, distinguish itself from the world that it apprehends. Indeed, I cannot but think that such a mind would be more conscious of going beyond itself in the act of knowledge than the comparatively undeveloped human mind is; just as the human mind is more clearly conscious of this than the animal mind is. The only difference would be that the fully developed mind would not be conscious of any irreducible surd in the world that it apprehended. There would be no baffling puzzles, no unexplained contingencies. It would have come to its kingdom. The world would be *its* world; but it would still be its *world*.

[2] There is of course a great deal here that requires much more explanation than I am able in this place to supply. To a certain extent I have indicated the view that I take on several of the points here referred to, in my previous paper on 'The Infinite and the Perfect'. With regard to time, for instance, my view is that reality is or contains a time-process, through which intelligent beings are gradually developed. This process I believe to be eternal, but not timeless; and how this is possible I have tried to show in the paper to which I refer. Since it is eternal, the end may be regarded as returning into the beginning; and I think this is the true sense in which it may be maintained that God creates the world. He is, I mean, as Aristotle thought, both the beginning and the end of the world-process. Strictly speaking, it seems clear that there cannot be any such thing as creation. The universe must be eternal. But at all this I can only hint. The recognition, however, that 'eternal' does not mean the same as 'timeless' seems to me quite fundamental. I may note, in passing, that the ultimate difficulty in Mr. Joachim's book on *The Nature of Truth* seems to arise from a failure to draw this distinction. Such a failure is probably the greatest stumbling-block in the way of idealistic theories in general.

must not say, with Mr. Bradley, that the objects of our experience have only degrees of reality.[1] Idealism, as I understand it, admits the reality of all the objects of our experience. It leaves us our cups and saucers, our suns and planets, our primroses and skylarks, our time and space, undisturbed. What it denies is that any of these things are to be regarded as distinct and independent realities, separable from one another and from us. It maintains that they can only be interpreted as parts of a whole; that that whole is a living whole; and that its ultimate interpretation can only be found in the development of intelligence within it.

What I concede to the realist is that much, perhaps most or even all, of our British idealism has been far too subjective. This is true, I should admit, not only of those definite speculative constructions that have been attempted, but even of the general habit of mind that has prevailed, and of the modes in which it has expressed itself in literature. Browning, for instance, seems to me to fail in the end, just as Berkeley fails, and just as Green and Mr. Bradley fail, to give a truly idealistic interpretation of the world, through the fact that he has no real place for nature. He gave his attention, as he says, to 'incidents in the development of a soul; little else is worth study'. The result of this—as Prof. Henry Jones has so forcibly brought out—is, as in the case of Berkeley, to lead to scepticism as to the possibility of real knowledge; for the conditions that govern poetic thought are, after all, very similar to those that govern philosophic thought. Wordsworth, I think, showed in this a truer insight, when he looked to nature for the revelation of the spiritual significance of the universe; and with Goethe, as we know, it is the Earth-spirit that 'weaves the living robe of Deity'. It is this that we have to learn from realism. The lesson for the idealist at the present time, if I may adapt a saying of Carlyle, is—'Close thy Browning—open thy Goethe: Close thy Berkeley—open thy Plato: Close thy Bradley—open thy Hegel'. I hope that, when Browning, Berkeley, and Bradley are closed, they will not be hermetically sealed; and that when Goethe,

[1] There are no doubt successive stages in the development of our apprehension of reality; but I feel bound to maintain, as strenuously as Parmenides, that reality itself is one and eternal. As I have already indicated, however, I believe it to be an eternal process, with many successive stages in its growth. It is not quite clear to me whether this is what is meant by those who affirm degrees of truth and reality; but I think their meaning is somewhat different. In any case, the word 'degree' does not seem to me quite satisfactory.

Plato, and Hegel are opened, they will be read with a critical eye. But what I mean is that we have to learn to take the more objective view of our experience, if our world is ever to become really intelligible to us. That it can, in this present life, become completely intelligible to us, I by no means affirm. It is only at the end of the process—and I think it must have an end—that we can hope to see things truly. Here, I confess—in this present embodiment—we are still in the dust and heat of the forward march; and our best theories are only a sort of working hypotheses.

III.—PHYSIOLOGICAL FACTORS OF THE ATTENTION-PROCESS (IV.).

(*Conclusion.*)

By W. McDougall.

In the third paper of this series[1] I brought forward some new and direct evidence of the important part played by motor activities in supporting and directing sensory attention, and I endeavoured to render more precise and definite current conceptions as to how they play this part. Several distinguished psychologists have been so impressed with the importance of these effects of motor activities that they have proposed to regard them as the only determinants of attention. Of these Prof. Ribot has advocated this view in the most thoroughgoing and explicit manner, in many passages of which the following is a typical example: "The motor manifestations are neither effects nor causes, but elements; together with the state of consciousness which constitutes their subjective side, *they are* attention".[2] If I do not misunderstand Prof. Ribot, we are to believe that the arrival in the brain of reinforcing impulses by way of the nerves of the "muscular sense" is the principal and essential condition of all attention, a condition in the absence of which attention of any kind or degree would be impossible. Prof. Sully also has lent the weight of his authority to a rather less extreme form of this doctrine.[3] On the other hand, this doctrine has been destructively criticised by Prof. Stout,[4] and here I have only to bring forward some experimental evidence to support his contention, to show that, even in the simplest cases of sensory attention, the part played by motor adjustments is a secondary one, and that, as Stout puts it, "'cerebro-ideational activity' is the immediate and essential condition on which the direction of thought depends. Sensory adjustment [*i.e.* motor adjustment of sense-organs] is merely an arrangement for

[1] Mind, vol. xii., No. 48. [2] *Psychology of Attention*, p. 23.
[3] *Human Mind*, p. 149. [4] *Analytic Psychology*, vol. i., p. 208.

intensifying and detaining sensations in the service of the 'cerebro-ideational' process."

Fechner noted that during the struggle of two differently coloured fields presented to the right and left eyes respectively it was possible by an effort of will to favour the predominance of either colour. In explanation of this effect he assumed that the intrinsic muscles of the eye that is stimulated by the colour on which attention is concentrated, are innervated more strongly than those of the other eye, and that the predominance of that colour is due to the reinforcement of it by afferent impulses from those muscles.[1] In the preceding section I have quoted examples of experiments which prove that the activity of the intrinsic muscles of one eye does actually reinforce and maintain in consciousness the sensation of the colour presented to that eye. In those experiments the intrinsic muscles of one eye were paralysed by means of atropine, so that any effort of accommodation brought into action the muscles of one eye only. But it seems improbable that in the normal state of the eyes, the intrinsic muscles of one eye can be more strongly innervated than those of the other, as Fechner supposed. However that may be the experiments described in part iii. of this paper[2] seem to prove that the voluntary favouring of one colour is not effected, or at least not wholly effected, in this indirect manner; for they show that a voluntary effort of attention may favour the predominance of the colour sensation excited through the eye whose intrinsic muscles are completely paralysed. The cerebro-ideational activity involved in a voluntary concentration of attention upon a sensation does, then, in some way, directly support the sensation and tend to maintain it in consciousness.

In a similar way voluntary effort may be shown to favour directly any one of the various modes in which an ambiguous figure (such as figure 2, p. 335[3] and figures 7 and 8, p. 483[4]) may be perceived. In these cases also it has been maintained that voluntary effort produces these effects indirectly only, that it directly effects only the adjustment of the sense-organ and that it is this adjustment of the sense-organ alone which favours the predominance of one or other mode of perception.

Thus it has been said of the staircase figure (fig. 7, p. 482) that, when we voluntarily cause it to appear as a staircase, it is by moving the eye from *b* to *a*, and when we cause it to appear as an overhanging broken wall it is by moving the

[1] *Abhandl. d. sächs. Ges. d. Wissensch.*, Bd. v.
[2] MIND, N.S., vol. xii., p. 481.
[3] *Ibid.*, No. 43, vol. xi. [4] *Ibid.*, No. 48, vol. xii.

eye from *a* to *b*. But, as I have already pointed out, although these eye-movements favour these changes, it is easy after a little practice to associate each change with the opposite movement of the eyes. In the case of Necker's cube (fig. 8) Prof. Loeb[1] has pointed out that when one of the angles *a* or *b* is fixated, that angle tends to appear as the nearest or the most remote point of a cube, according as the accommodation of the eye is increased or diminished.[2]

Loeb finds that these effects are still produced if the accommodatory muscles of the eyes are completely paralysed with atropine. He is therefore unable to regard the effect in this case as the result of afferent impulses to the brain initiated in the eye-muscles, and falls back on the suggestion that the essential factor determining one or other mode of perception is the current of innervation passing out from the brain to the eye-muscles.

This modified form of the "muscular view" seems however to be no more tenable than the cruder form of it, in face of the following observations: (1) The changes of form of the cube may by a little practice be made to accompany changes of accommodation the reverse of those which they most naturally accompany, *e.g.* the angle *b* being fixated, it may be made to recede as accommodation is increased, and to become the most prominent point of the figure as accommodation is relaxed.

(2) A point midway between *a* and *b* may be fixated and, while this fixation is maintained, either of the principal forms suggested by the figure may be called up at will, and its presence to consciousness may be prolonged by an effort of attention. The influence of voluntary effort was studied by the method applied to the study of the struggle of two differently coloured fields presented to the two eyes (p. 478[3]). The results of one experiment may be quoted:—

Necker's cube (fig. 8, p. 483). Point midway between *a* and *b* continuously fixated during 118″ in each case.

1. Passive:—
   $27a = 11''$, $21b = 11''$, flat $= 96''$.
2. Holding *a*:—
   $29a = 28''$, $15b = 7''$, flat $= 83''$.
3. Holding *b*:—
   $22a = 9''$, $24b = 21''$, flat $= 88''$.
4. *a* and *b* held in turn as long as possible on each appearance:—
   $24a = 19''$, $15b = 14''$, flat $= 85''$.

[1] *Pflüger's Archiven*, Bd. xl. [2] *Ibid.*
[3] MIND, N.S., No. 48, vol. xii.

5. Passive:—

$22a = 8''$, $21b = 8''$, flat $= 102''$.

In this table *passive* means that throughout the period of 118 seconds the subject maintains as far as possible the attitude of a passive spectator of the changes; *holding a* means that he made efforts to recall that form of the cube of which the angle *a* appears as the most prominent point whenever the figure appeared in any other form, and endeavoured to keep that form present to consciousness as long as possible; *holding b* means that throughout 118″ he made similar efforts to favour the predominance in consciousness of the other form of cube in which the angle *b* appears as the most prominent point of the figure, while *flat* means the sum of those periods during which the figure appears merely as a group of lines on a flat surface.

The continuous fixation of the central point of the figure about which the whole figure is symmetrically arranged prevents any lateral movements of the eyes which might favour the predominance of either form of cube and ensures also that any changes of accommodation shall not favour the predominance of one form over the other. Muscular factors seem thus to be eliminated, yet the influence of volition in favouring the predominance of either form of cube appears distinctly enough in the figures of the table which denote the sums of the periods during which each form was present to consciousness, though it is not very great. In some experiments made when I was quite fresh I attained more marked effects of this sort, in others, when fatigued, less distinct effects. I found the needful effort to be very severe and exhausting. Another subject who repeated these experiments had much greater success in voluntarily favouring predominance of one form of cube under these conditions. He was able to favour the predominance of the one form to the almost complete exclusion of the other, so that the appearance of one form of cube alternated with periods in which the figure appeared flat or confused. This he achieved by imagining the cube to be a square box into the open end of which he imagined himself to toss balls continuously.

The groupings of the white discs of fig. 2 (p. 335) may also be made to succeed one another in any desired order by voluntary efforts while one point is continuously fixated, and in this case the slightest wavering of the fixation is at once revealed by the appearance of bright edges to the discs. The grouping may also be changed at will in the after-image projected upon a grey surface, while eye-movements are excluded by fixation of a point on that surface. Under these conditions

two of the linear groupings can be made to alternate with one another to the almost complete exclusion of the third form. And the grouping can be controlled not only in the absence of eye-movements, but in spite of eye-movements which favour the predominance of one form of grouping only. A fine thread is laid across the figure parallel to one of the three sets of rectilinear rows and the eyes are kept moving to and fro along this thread; this, of course, greatly favours the predominance of the grouping in rows parallel to the direction of movement of the eyes, but it is possible, after some practice, to call up either of the other linear groupings at will while the eyes continue to make the to-and-fro movements in the direction of the third set of rows. This effect also may be very satisfactorily observed on projecting the after-image of fig. 2 upon a smooth grey wall on which a horizontal line has been drawn. Then, while the eyes move to and fro along this line, the oblique rows can be called up at will; and indeed it is not possible by a voluntary effort aided by such eye-movements to exclude their appearance; after some seconds, during which the horizontal rows alone appear, one or other of the oblique sets of rows appears involuntarily.

These simple observations seem to prove that neither the actual muscular-adjustments of the sense organs, nor the central innervations that produce such adjustments are essential factors in the voluntary or non-voluntary control of the direction and mode of attention to sense impressions; that they are not the means whereby this control is effected in voluntary attention, nor the cause of the direction of non-voluntary attention, but are rather effects of the direction of attention to this or that object, effects which tend to maintain and to facilitate that direction of attention.

The frequent exaggeration of the importance of the motor-element in attention is probably due to two facts: (1) the fact that all cerebro-ideational process tends to issue in appropriate motor excitement; (2) the fact that voluntary innervation of groups of muscles is a familiar process of unquestionable reality. Those who assume that the motor adjustment is the primary fact in voluntary attention and that voluntary control of attention can only be effected indirectly by voluntary control of muscular innervation admit the power of voluntarily calling up an idea in the case of ideas of movement, but deny it in the case of ideas of every other class. But there is no justification for the assumption of any such difference, and if, as all admit, we can voluntarily and directly re-enforce an idea of movement we should be

prepared to admit a similar power of re-enforcing ideas of other kinds.

The essential determinant of the direction of sensory attention, apart from the intensity, novelty or other compelling features of the sensory stimuli, is the cerebro-ideational activity, the play of excitement among the organised systems of neural elements of which the higher levels of the brain are composed. We have to suppose that these systems are in part congenitally determined, have a congenital tendency to assume in the course of development certain forms and connexions, but that throughout the course of growth and education they become perpetually modified, extended and inter-connected in the way sketched in masterly fashion by Prof. Stout in his *Analytic Psychology*.

Organised Neural Dispositions as Factors of the Attention-Process.

Assuming the existence of organised neural dispositions, corresponding on the neural side to the mental dispositions or mental or apperceptive systems described by Prof. Stout, I report in this section certain observations which seem to throw light upon their relations to one another and to the sensory processes and upon some of their functional peculiarities.

At the end of the first paper of this series (p. 349, vol. xi.) the following problems were defined as remaining for solution: (1) What conditions determine the penetration of the excitation-process initiated in a sense-organ to paths of the higher levels of the brain? (2) to any one such path in preference to other possible paths of the higher levels? (3) What conditions determine the perpetual shifting of the excitation-process or current of nervous energy from one higher-level path to another? (4) What conditions confine it at each moment to any one such path? The first and second of these questions have been partially answered. We have seen that besides the conditions of the stimulation of the sense-organs important factors are: (1) The general conditions of the brain as regards the quantity of free nervous energy or neurin in it, this depending largely upon the inflow of energy by all the afferent nerves, especially the afferent nerves of the viscera through which, or some of which, the organic sensations are excited; (2) the adjustments of the sense-organs which not only directly favour the reception of some one part of the total mass of sense-stimuli but indirectly, through the afferent impulses initiated by

the muscular adjustments, reinforce the excitation-processes initiated by those favoured sense-stimuli and tend to determine their penetration to some one system of higher-level paths. We may usefully characterise these as *accessory internal conditions* of attention, to distinguish them, on the one hand, from such factors as the relative intensities of the sense-stimuli, their novelty, their sudden incidence or contrasted characters which we may call *external conditions*, and, on the other hand, from the *intrinsic conditions* of attention which we have now to consider. These consist in the ever-varying states of the organised neural systems of the higher brain-levels.

At any moment of waking life some one such system is predominantly active, is the main path of discharge of neurin from the afferent to the efferent side of the brain, and as the current shifts from system to system it leaves each one in a condition of subexcitement which only gradually passes away and which we may conceive as consisting in the presence in it of a residual charge of free energy.

Let us suppose that at any moment of waking life a number of objects are simultaneously affecting the various sense-organs, and that the external and the accessory internal conditions are equally favourable to all of them (a condition of course never realised); if one of them excites a sensory tract which is intimately connected with some upper-level system that is in a condition of excitation or subexcitation it, rather than any other, will become the object of attention, and the mode of its perception will depend upon the nature of that system. Which object shall become the object of attention and the way in which it shall be perceived are thus determined by the interplay of these three kinds of factors, the external, the accessory neural and the intrinsic neural factors. Instances of the selective influence of the state of excitement or residual excitement of a neural system are frequent in common life, as when the expectation of the arrival of a friend leads one to catch the sound of his voice in the distance, or leads one to perceive him in the approaching figure of a stranger who perhaps bears but little resemblance to him; in fact all the familiar instances of pre-perception which have been adequately treated by a number of authors. An important point to notice is that the idea of the expected object need not be present to consciousness in order that the corresponding mental system shall exert its selective action upon the sensory processes; it suffices that it shall have recently been present to consciousness so that the corresponding neural disposition remains in a condition of residual excitement.

These effects are very well illustrated in the study of the ambiguous figures described above. It frequently happens that when a person looks at one of these figures, *e.g.*, the staircase figure, for the first time, he can see it only in one of its principal forms, even though he is asked to attempt to interpret it in different ways and in spite of the most varied movements and adjustments of the eyes. If then one of the alternative forms, say the broken-wall form, is named, the name, by virtue of a previously established association, calls up the idea of that form, the corresponding upper-level system is excited, the sensory excitation initiated by the figure now strikes at once into this path and the figure is seen in this form. On looking at the figure again a moment later both systems, that corresponding to the staircase and that corresponding to the broken wall, are in subexcitement and the excitation of the sensory level may strike into either one, but will then soon pass to the other, and the subject is unable to prevent the alternate appearance of the two forms. When we voluntarily determine the appearance of one or other form of an ambiguous figure, or voluntarily prolong its appearance in one form, we do that not only or chiefly by voluntarily giving to the sense-organ an appropriate setting, but by directly re-enforcing the excitement of the appropriate mental system, just as we voluntarily bring about or re-enforce a contraction of the muscles of a limb by concentrating attention on the idea of the movement to be effected by the contraction.

This influence of pre-perception may be very neatly illustrated by help of figure 2 (p. 335, vol. xi.). If an after-image of this figure is obtained and then allowed to die away while the eyes are completely protected from the light, it can, like other after-images, be revived by allowing light to fall on the closed eyelids. If, at the moment before thus reviving the after-image, one calls up the idea of the figure in any one of its principal forms, the discs will appear in the after-image at the moment of its revival, grouped as they were ideally represented.

The excitement of the upper-level system not only co-operates in selecting the object of sensory attention and in determining the mode of its appearance; it also directly supports the sensations excited by that object as against all other sensations. This is illustrated by those experiments by which it was shown above that the voluntary re-enforcement of one colour in the binocular rivalry of two colours, is not wholly indirect reinforcement by way of muscular adjustment. It is well illustrated also in the use of a microscope,

when the sensations excited by the object on which attention is concentrated through the eye that looks into the lens completely banish from consciousness the sensations excited through the other eye. This effect, too, is neatly illustrated by the observation of after-images of figure 2 (p. 335, vol. xi.). The after-sensations of the white discs are apt to disappear from, and return to, consciousness independently of one another in an irregular manner. But if one voluntarily throws them into definite grouping, say horizontal rows, then whole rows of discs tend to disappear and reappear together, and by concentrating attention upon any one such row it can be made to reappear and can be held for some time in consciousness while others come and go.

A similar effect may be still more clearly demonstrated in the following way: Figures like *a* and *b* of figure 3 (p. 346, vol. xi.) are looked at through a stereoscope and with a blue glass before the right eye and a red glass before the left eye. The red and blue fields are thus projected on the central regions of the two retinæ respectively and there is struggle and alternation of the two fields in consciousness. If now one concentrates attention upon the one field and causes its coloured discs to appear successively in each of the three linear groupings, the sensations of that eye may be held continuously present to consciousness for some little time to the exclusion of the sensations of the other eye. This observation may be repeated still more satisfactorily in the case of after-images of two such figures impressed upon right and left eyes respectively.

A still more striking instance of the influence of the higher levels over the processes of the sensory level is afforded by a phenomenon which I propose to call the *cerebral induction of light* in order to mark its similarity to, and its difference from, the well-known retinal induction of light. I first noticed it under the following conditions. Two squares of red paper were laid side by side on a black ground with a narrow interval (about 1 cm. in width) between them, and a point about the centre of one of them was fixated steadily. At intervals the black space between the red squares became suddenly filled with red colour indistinguishable from that of the red squares, so that the two red areas were joined together to form a single large red rectangle. The red colour of the intermediate space persists only for a moment and disappears as suddenly as it comes. It is thus very different to the red coloration due to retinal induction, which becomes perceptible on such a dark ground adjoining a brightly coloured area after a few seconds' fixation and grows slowly and steadily

in intensity. Other similar conditions have yielded similar results of *cerebral induction of sensation*, but it is more readily obtained in the case of after-images, as in the following cases. In a figure like figure 2 a central square area comprising nine white discs was blocked out with black ink. Under brilliant illumination a bright positive after-image was obtained, and I concentrated my attention upon the grouping of the discs, causing them to change repeatedly from one grouping to another. When I then looked for the central gap in the after-image corresponding to the black square at the centre of the figure it was no longer visible, the rows of white discs ran continuously across the centre.

Again about the centre of a large black card a number of small square holes were cut, separated from one another by narrow strips and arranged in vertical and horizontal rows. This, held against a white background appears like figure 10.[1]

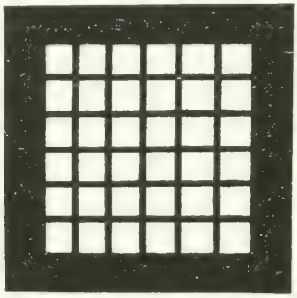

FIG. 10.

It will be noticed that, just as in the case of figure 2, the white areas tend to appear grouped alternately in vertical or horizontal rows and in other groupings, though less insistently than in the case of figure 2. This figure fixated against a

[1] In connexion with this figure I may take the opportunity to point out a curious illusory appearance presented by it, which, so far as I know, has not previously been described. If it is held in a good light at some 40 centimetres from the face and the eyes are allowed to wander over it, one sees a white or grey spot on each junction of the black bars except the one directly looked at. If the eyes are kept steadily fixated upon any one point the white spots rapidly become dimmer until after a few seconds they disappear. I have not been able to discover the explanation of this appearance. That the white spot does not appear upon the junction directly looked at (*i.e.* the one whose optical image falls upon the fovea) proves that it is not a simple contrast-effect and suggests that it is in some way due to the rod-apparatus. This effect may be observed particularly well when a window with small leaded panes is looked at against a bright sky. Each junction of the cross-bars, except the one at the centre of the field, appears to be perforated with a small hole.

brilliant white ground such as a white cloud, leaves a positive after-image in which each square persists as a bright area. On attending to these as vertical rows the squares of each row run together, forming uninterrupted vertical bars of light; and on attending to them in horizontal grouping they run together to form similar horizontal bars. The two kinds of bars can then be voluntarily produced alternately by attending to the two groupings in turn. It is noteworthy that when in this way the squares run together to form continuous bars, the bars appear less bright than the squares which brighten again as the bars split up, a fact which suggests that a limited quantity of energy becomes distributed through a larger number of sensory elements during the appearance of the bars.

In these and a number of other experiments in which this curious effect was observed the essential condition of its production seemed to be that the spatially separated sensations peripherally excited should strongly suggest some whole figure; the idea thus suggested then calls into existence the sensations needed to fill the gaps left between the peripherally excited sensations. *The cerebrally induced light seems in fact to be a simple form of hallucinatory sensation experimentally produced.* As in the pathological and the hypnotic hallucination, the idea moulds and modifies the field of sensations, calling into existence such sensations as are needed to complete the perception of the object represented.

The influence of the activity of the higher-level neural systems upon the processes of the sensory level, illustrated by the experiments above described, may be briefly summarised as follows. In reproductive imagination the higher-level system in predominant activity at any moment plays down upon the sensory level discharging itself through the efferent limbs of some group of sensori-motor arcs, so exciting the images of sensation which constitute the sensory content of the idea. In normal sense-perception the excitation of some group of sensori-motor arcs of the sensory level strikes into some upper-level system of paths and traversing it, issues in part to the efferent limbs of the same group of sensori-motor arcs thus supporting, re-enforcing and slightly intensifying the group of sensations due to their excitement, in part to the efferent limbs of other arcs of the sensory level in the same and in other sensory areas of the cortex, thus giving rise to images of sensation which enter with the sensations into the psychical synthesis which is the percept. In hallucination the upper-level system excites so strongly the arcs of the sensory level into which it discharges itself that,

rendering them paths of low resistance, it determines a re-distribution of the energy coming in from the sense-organs, diverting it from its normal paths in the sensory area to these arcs, so giving rise to sensations which normally would not be excited by the objects affecting the sense-organs at the moment of hallucination and partially or wholly suppressing others which normally would be excited by them. When we voluntarily re-enforce one group of sensations and determine their predominance over others or their appearance in some significant grouping, we do this in part by bringing about suitable adjustments of the sense-organs, but principally by re-enforcing the excitement of a neural system which plays down upon the arcs of the sensory level; this re-enforcement of the excitement of such a neural system is the immediate physiological effect of voluntary concentration of attention, of all volition. We must briefly consider it later.

Fatigue of the Neural System as a Factor Determining the Direction of Attention.

In an earlier paper[1] I have tried to show that the rapid alternation in consciousness of two colours, when differently coloured fields are presented simultaneously to the two eyes, as when one looks at a white card with a red glass before the right eye and a blue glass before the left eye, is due to fatigue and inhibition. The red rays falling on the retina of the right eye excite a certain sensory tract or chain of neurones, R, in the visual area of the occipital cortex, the blue rays falling on the retina of the left eye excite a different chain of neurones, B, in the same area of the cortex. If both rays, and the corresponding excitations which they initiate, are of low intensity, the two excitation-processes may be propagated simultaneously through the tracts R and B, and the subject then sees the surface looked at as a purple surface, there is binocular fusion of the two colour-fields. If the two rays are of higher intensity the tracts R and B function alternately; B ceases to function while R is active and conversely, and the subject sees the surface alternately red and blue.

The cessation of activity of tract B while the blue rays continue to fall on the retina is clearly due in some way to the influence of the activity of tract A, and conversely; the two tracts are in a relation of reciprocal inhibition such that the inhibitory effect is only complete when the intensity of

[1] *Brain*, Winter No., 1901.

excitation is high. This is a special case of the reciprocal inhibition that we have to study in the next section. Assuming this relation to obtain between the two tracts, it remains to explain the alternate predominance of either tract in turn. That this is due to fatigue of the tracts rapidly induced during activity and rapidly passing away during rest seems to be proved by the following considerations: (1) If one tract, say R, is more strongly excited than the other by rendering the intensity of the red light falling into the right eye greater than that of the blue light falling into the left eye, the periods of dominance of red become longer than those of blue, but do not altogether exclude them. (2) If the two tracts are equally intensely excited the periods of dominance of red and of blue are approximately of equal duration, unless the dominance of one is favoured in some way at the expense of the other. These periods in my own case are seldom of more than two seconds' duration and usually are shorter, and in this respect individuals differ markedly. The predominance of one colour may be prolonged a little by a voluntary concentration of attention upon the corresponding field, but much more effectively by the appearance of movements in one field, movements of objects in the visual field being, as is well known, very effective in drawing the attention. In order to favour the dominance of one colour a four-rayed wheel is made to rotate in the field of one eye (the right eye) so that its spokes pass in rapid succession across the coloured field (red). This causes the red field to dominate completely for some seconds, after which the blue field begins to make momentary and partial appearances which increase in extent and duration as the observation is continued, without however equalling in duration the periods of dominance of the red field. After one minute the wheel is removed, so that the red field is no longer favoured by its movements. The blue field then predominates, totally excluding the red field for many seconds (in some cases as many as 15 seconds), after which the rapid alternation of the two fields begins again. In this case the artificially prolonged activity of the red-exciting tract induces in it a degree of fatigue which enables the rival blue-exciting tract to inhibit its activity for a considerable period as soon as the movements in the red field no longer favour its predominance. (3) If the left eye is kept closed for some seconds while the right eye is exposed to its red field, and the left eye is then exposed to the equally bright (or to a less bright) blue field, the blue invariably predominates at once over the red, totally excluding it for some seconds, *i.e.* the rested tract inhibits

the fatigued tract. (4) It has been shown[1] by continued stimulation of the motor cortex of animals that the cortical tracts are liable to a fatigue which very rapidly comes on and as rapidly passes away.[2]

The aim of this section is to show that our inability to continue to perceive an object in any one aspect, or more generally, our inability to attend continuously to any object in one way for more than a very brief period of time, is due to just such fatigue of the higher-level paths as is revealed in the paths of the sensory level by the foregoing observations, or in other words, that the perpetual fluctuation of the attention which is one of its most peculiar and constant features and which is but little controllable by any effort of the will, is due to the extreme liability to fatigue of the higher levels of the brain. The evidence on which I chiefly rely is afforded by observations which show that the fluctuations of attention which occur during the perception of ambiguous figures obey in almost all respects the same laws as the alternation of colours in the case of rivalry of two differently coloured fields presented simultaneously to right and left eyes respectively.

(1) Firstly, in the struggle of differently coloured fields and in the fluctuations of the mode of attention to ambiguous figures the periods of alternation are of the same order of duration (in my own case from about one half to two seconds) and exhibit similar large differences in different individuals. (2) In both cases, as has been shown above, the predominance of one of the alternating phases may be induced and prolonged by appropriate activity of the intrinsic or extrinsic muscles of the eyes, or by a voluntary concentration of attention on one of the phases without muscular activity; in both cases the prolongation of the appearance of one phase effected in either of these ways is slight, but the influence of voluntary effort is somewhat greater in the case of the ambiguous figures. The change takes place involuntarily and in spite of every effort of the will to prevent it. (3) Just as the period of dominance of one of two rival colour-fields, prolonged by any means beyond its usual duration, is followed by an unusually long period of dominance of the rival field, so when by any means the period of one mode of perception of an ambiguous figure is abnormally prolonged it is followed by an unusually prolonged period of dominance of the alternative mode of perception, *i.e.* in both cases the

[1] Levi, "Fatigue of Cerebral Cortex," *Journal of Physiology*, vol. xxvi.

[2] I have shown reasons for believing that this fatigue has its seat in the cell-junctions or synapses of the cortex (*Brain*, 1901).

continuance of one phase seems to involve a rapidly increasing fatigue of the corresponding brain-tract which very soon turns the balance in favour of the unfatigued rival tract, when the latter enjoys a prolonged period of dominance during which the fatigue of the other tract is passing away. This effect may be observed in case of figure 2, by voluntarily maintaining an alternation of the appearance of two of the rectilinear groupings in either the figure itself or the after-image of the figure. I find that it is not possible completely to exclude the third rectilinear grouping for any long period. After a few alternations of the two oblique groupings voluntarily determined the horizontal grouping forces itself momentarily into consciousness, and if the voluntary alternation of the two oblique groupings is made to continue, excluding the horizontal grouping save for these occasional brief appearances for thirty seconds or more, then, when the voluntary efforts are relaxed and a passive attitude is assumed, the horizontal grouping distinctly predominates over the other two groupings for some few seconds, until the balance is once more restored. I have found it impossible to obtain any striking evidence of fatigue in the perception of any of the ambiguous figures described in the earlier articles of this series, because I find it impossible to secure the dominance of any one mode of perception for more than a brief period of some few seconds. But there is a familiar object of ambiguous perception which enables us to observe the effects of fatigue in a manner exactly parallel to the observation of fatigue in the case of rivalry of two colour-fields.

If one looks at the sails of a windmill in motion, standing at a distance of fifty yards or more and at a point almost, but not quite, in the plane of their motion, so that the sails are seen very obliquely, it is often difficult to be sure in which direction the sails are rotating, because as one continues to gaze the sails seem suddenly from time to time to reverse their motion and at the same moment to change the plane of their motion. Let *A*, *B*, *C*, *D*, in figure 11, represent four sails of a windmill rotating in a plane which cuts the plane of the paper at an angle of about 75°. Then at one moment the extremities of *A* and *B* will seem to be rotating towards a point a little to the left of the observer while *C* and *D* move away and towards the right, the whole wheel seeming to lie in a plane cut by the line of vision at an acute angle opening towards a point on the observer's left hand; a few seconds later the plane of rotation seems to jump through an angle of 30°, to such a position that it is cut by the line of vision

at an acute angle opening towards a point on the observer's right hand, and at the same moment *A* and *B* seem to begin to move away and towards the left while *C* and *D* begin to move towards a point on the right of the observer. One of these phases is of course illusory, the other corresponds to objective reality.[1] During the former phase, *A* seems nearer to the observer than *B* and *D* seems nearer than *C*, but during the second phase *B* seems nearer than *A* and *C* seems nearer than *D*, and so long as the observer stands at a distance of thirty yards or more the disparation of the images of the sails on the two retinæ is insufficient to render possible binocular perception of the relative distances of the sails. But it is clear that, if the sails are made small and are viewed from a point so near that the conditions of binocular perception of distance are satisfied, the observer will perceive the

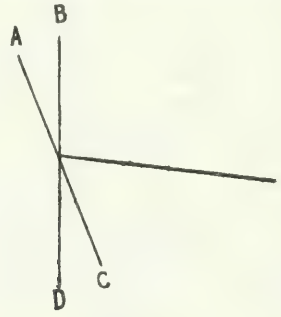

FIG. 11.

true relative distances of *A* and *B* and of *C* and *D* and that this must strongly favour the predominance of that mode of perception which corresponds to the reality. I have therefore constructed a small rough copy of a windmill. It consists of four brass rods, each 20 cm. in length, fixed at right angles to one another on one end of a long steel rod and in a plane vertical to this rod. The steel rod or axis is held horizontally in strong bearings which leave it free to rotate, and on the end remote from the four-rayed star formed by the brass rods a pulley-surface is fixed. A cord from a motor passing over this surface keeps the brass rods in rotation in a vertical plane at any desired speed. This wheel or imitation windmill is

[1] Since windmills may still be seen outside laboratories I venture to suggest that some anti-realistic philosopher should study these curious appearances and should tell us whether he recognises any difference between the degrees of reality or truth of the two appearances, and if so, how he proposes to account for it.

blackened and is set up in the dark room so that the observer, seated at a distance of 2 metres, sees only the four brass-rods (and a portion of the steel axis) rotating in a plane a little oblique to his sagittal plane, against a bright background formed by a sheet of parchment paper illuminated from behind.

If no other light falls on the windmill and the observer keeps one eye closed, it is impossible for him to discover in which direction the rotation takes place, whether the wheel is, as it were, rolling towards him or away from him. If he is unaware of the nature of the experiment he is equally likely to perceive at first either kind of motion, and when after a period, which varies much in duration with different observers, he perceives a sudden change in the direction and plane of rotation he, in most cases, assumes it to be an objective change, the rotation in one direction being just as clearly perceived and seemingly real as that in the reverse direction. The change of phase having once taken place and the rotation in both directions having been observed, the two phases then alternate at approximately regular intervals so long as the subject continues to observe the wheel with one eye only. If the wheel is looked at with both eyes open the subject sees the actual direction of rotation only, because binocular perception of the relative distances of the spokes of the wheel tends to prevent the illusory perception. On prolonged observation with both eyes I have observed occasional brief appearances of the illusory phase of notion. No one of the eight subjects who have kindly lent themselves to these experiments has observed the illusory phase during binocular vision, but that is probably owing to the fact that they have in no case been asked to prolong the observation beyond a period of two minutes.

In order to study more accurately the alternation of phases graphic records were made by the help of the apparatus described above (vol. xii., p. 478). These records showed the following results: (1) the rate of alternation during passive observation varies considerably among the eight subjects, the periods of the phases varying from three seconds to about twenty seconds, in most subjects being about five seconds.[1] (2) The periods become briefer as observation with one eye is prolonged. (3) All the subjects were able to exercise some degree of voluntary control of the phases, *i.e.*, they could prolong the periods of one phase, but this prolongation was

[1] It seems probable that these differences indicate some important differences of cerebral constitution hitherto overlooked.

in all cases slight, in some cases hardly appreciable, and none could prevent the appearance of the opposite phase. (4) While the subject observed the wheel binocularly only one phase (the true motion) was seen, but, if at intervals of ten seconds or more he closed one eye for one or two seconds, the illusory phase invariably appeared at once. (5) When binocular observation was prolonged for two minutes (during which the true phase alone was seen) and one eye was then closed, the illusory phase always appeared at once and persisted for an abnormally long period varying from half a minute to more than one minute, after which period the two phases continued to alternate rapidly in the manner characteristic of monocular vision. In several subjects the period of dominance of the true phase of two minutes' duration (secured by binocular observation) was always followed, when one eye was closed, by a long period of dominance of the illusory phase and this by a brief period of the true phase and this in turn by a second period of the illusory phase considerably longer than normal but less long than the former long period; and it was not until the end of this second abnormally long period of dominance of the illusory phase that the balance between the two phases was restored and an alternation of equal periods of the two phases was observed. The following figures given by a single experiment will illustrate these effects:—

During binocular observation:—
true phase only for 120″
Then right eye closed and then during monocular observation:—
illusory phase for 35″
true „ „ 2″
illusory „ „ 17″
true „ „ 3″
illusory „ „ 3″
true „ „ 2″
illusory „ „ 2″
true „ „ 2″
illusory „ „ 2″

These observations seem to show that the conditions which underlie the fluctuations of attention during the observation of ambiguous figures are similar to those which condition the alternation of colours in the rivalry of two different colour-fields presented to the right and left eyes respectively; they seem to show that in both cases a principal condition of the alternating appearance in consciousness of two objects, while the impression made on the sense-organ remains unchanged, is fatigue of the cortical tract concerned in the perception of either object, a fatigue which is induced during

the period of perception, and which rapidly passes away during the period of rest in which the other object is present to consciousness. The principal difference between the two cases is that in the case of the binocular rivalry of two colours the sensory content of consciousness changes, while in the case of the ambiguous figures the sensory content remains unchanged and only the mode of perception or apperception of it changes; the corresponding difference in the neural changes in the two cases seems to be that the paths which suffer fatigue and become alternately active and passive or, in other words, alternately transmit the stream of nervous energy coming in from the sense-organ and cease to transmit it while it is diverted to the alternative path, these paths are, in the case of the binocular rivalry of colours, paths of the sensory area of the cortex, paths of the second level in the scheme on page 333 (vol. xi.); while in the case of the ambiguous figures these paths are paths of a higher level and the nervous energy coming in from the sense-organ is continuously transmitted by the paths of the sensory level while it penetrates alternately to one or other of two higher-level paths.

In the discussions of fluctuations of attention authors have commonly given a prominent place to the intermittence of perception which commonly results when one attempts continuously to concentrate attention on a just perceptible sound or a just perceptible difference of brightness. Some authors, notably Prof. Münsterberg[1] and Prof. Heinrich,[2] have argued that such intermittence is due to intermittence of the adjustment of the sense-organ, of the accommodatory mechanism of the eye and of the tension of the tympanic membrane of the ear, and they have supported their contention with ingenious experiments which seem to show that such changes in the adjustments of the sense-organs do probably occur at the moments of disappearance and reappearance of the just perceptible object. But, even if it could be proved that such changes in the sense-organs invariably accompany these fluctuations of the attention, it would by no means follow that the changes in state of the sense-organs, and still less that the changes of perception, are caused by peripheral fatigue and recovery. It would remain more probable that both kinds of change are the expression of central fatigue and recovery; and this view of their causation is strongly supported by the fact that the intermittence of perception is

[1] *Beiträge zur experimentellen Psychologie*, Heft ii., S. 98.

[2] "Die Aufmerksamkeit u. d. Funktion d. Sinnesorganen," *Zeitschrift für Psychologie*, Bd. ix.

in many respects similar to, and capable of explanation on the same lines as, the fluctuations of the attention during perception of ambiguous figures; for in some of these cases, notably in the case of the windmill-illusion, peripheral changes certainly play no part in determining the fluctuations of attention which, as I have attempted to show above, have as their principal condition alternating fatigue and recovery of tracts of the higher levels of the brain.

If we accept the conclusion reached above as to the part played by fatigue of brain-tracts in determining the fluctuations of attention to an ambiguous figure through rendering impossible continued perception in any one mode, we may I think apply it generally to the explanation of the fact that normally attention always plays about its objects, passing on from feature to feature of any one object or from object to object, and cannot by any ordinary effort be arrested or fixed upon any one detail for more than a brief moment. The state of consciousness at any moment during attention to any given object has for its neural correlate the flow of nervous energy from the afferent towards the efferent or motor side of the central nervous system through some system of paths which includes paths of the higher brain-levels. Every such system forms part of some larger system or is intimately connected with other systems, and the conjunction of variable conditions, which at any moment determines the main current of energy to strike into one system of paths rather than another, must be regarded as determining in every case the realisation of one among many almost equally possible routes. Of these variable conditions the state of each path as regards degree of resistance presented by it to the passage of the current is one of principal importance. In all cases this resistance is rapidly increased by the fatigue induced by the process of transmission of the impulse from neurone to neurone across the cell-junctions. The onset of fatigue is more rapid the less canalised the path, for the less canalised the path, the higher the resistance of its cell-junctions, the greater is the consumption of potential energy in the process of transmission of the impulse and therefore the more rapid the onset of fatigue. Hence in the higher-level paths of low-degree of canalisation a very brief activity induces sufficient fatigue to turn the balance of conditions in favour of some one of the alternative systems of higher-level paths. Hence the perpetual shifting of the current from one path to another and the rapidly succeeding changes of the state of consciousness.

The Inhibitory Aspect of the Attention-Process and the Reciprocal Inhibitions of Neural Systems.

In the normal mind the coming to the focus of consciousness of one object banishes from the focus any other object; as the attention is drawn to, or given to, a new object it is withdrawn from its object of the preceding moment. And in proportion as attention is keenly concentrated upon one topic, or system of related objects, it is more difficult for any other object to attract the attention to itself, so that even the most interesting objects which affect the sense-organs under the most favourable external conditions may fail to be noticed and the most violent sense-stimuli may excite only marginal sensations. These are facts of common experience and there is no need to dwell upon them. We can hardly doubt that this singleness of the focus of consciousness and this mutual exclusiveness of the objects of attention have their parallels in the neural processes of the brain-cortex, and without necessarily accepting psycho-physical parallelism or epiphenomenalism, one may be inclined to believe that this singleness and narrowness of the field of attention is due, not to the nature of consciousness or of the soul, but rather to the peculiarities of the neural mechanism by which our conscious life is so largely conditioned. But, whatever view one may be inclined to hold, it is clear that considerations of sound method compel us to seek to conceive the neural mechanism in such a way that these peculiarities of the attention-process shall have their neural counterparts. In terms of the scheme of the neural mechanism adopted in these papers, the corresponding physiological facts would seem to be that the activity of any one system of higher-level neurones or neural arcs is incompatible with the simultaneous activity of any other, and that the more intense the activity of any one such system the more difficult is it for processes of the sensory level to propagate themselves into any other upper-level system; that the coming into activity of any one such system brings to a stop the activity of any other system and that its activity tends to prevent any other coming into activity; in other words, there obtains a relation of reciprocal inhibition between any two such systems, no matter how widely separated in the brain they may be and how different their functions.

Physiologists are not agreed as to the nature of the processes of inhibition in the central nervous system. In an earlier

paper[1] I have put forward an hypothesis as to the nature of the process, the hypothesis of inhibition by drainage, which may be briefly restated as follows: The excitement of any sensori-motor arc diminishes the resistance that it offers to the onward passage towards its efferent neurones of the current of free nervous energy or neurin, and its resistance is the more diminished the greater the intensity of its excitement. If then two or more such arcs are connected together in their central parts, that one which is the most intensely excited will become for the time being the path of lowest resistance for the escape of neurin to the motor neurones, and will therefore tend to drain to itself and to discharge by way of its motor neurones the energy liberated in all the others. I have shown (1) that this hypothesis affords explanations of the facts of inhibition in the spinal cord at least as satisfactory as those of any other hypothesis and that there are great difficulties in the way of all the rival hypotheses;[2] (2) that many of the peculiarities of visual sensation and perception, including all the phenomena of light- and colour-contrast,[3] are due to inhibitory processes, occurring probably in the arcs of the sensory level, and that some of these, notably the phenomena of smoothly graded light contrast[4] and smoothly graded colour[5] contrast, the predominance of contours in binocular rivalry and the paradoxical phenomenon of Fechner,[6] seem to be explicable in terms of the drainage hypothesis only.

Here I wish to extend this hypothesis to the explanation of the relations of reciprocal inhibition which obtain, as we are compelled to infer from the peculiarities of the attention-process, between the systems of neural arcs of the higher brain-levels. This view is based upon evidence of three principal kinds: (1) The very close similarity between the reciprocal inhibitions that occur in the spinal and in the sensory levels on the one hand and the simplest instances of reciprocal inhibition in the higher levels on the other hand; (2) the fact that the hypothesis of inhibition by drainage seems to be the only one that is in any degree adequate to the explanation of the inhibitory processes of the higher

[1] "On the Nature of Inhibitory Processes in the Central Nervous System," *Brain*, Summer Number, 1903.

[2] *Brain*, 1903.

[3] "New Observations in Support of Young's Theory of Vision," pt. i., MIND, N.S., No. 37, vol. x.

[4] *Journal of Physiology*, "Proc. of Physiol. Soc.," March, 1903.

[5] *Ibid.*, July, 1903.

[6] Note in the *British Journal of Psychology*, vol. i., pt. i.

levels; (3) the fact that its acceptance solves the problem of the establishment of associations in virtue of temporal contiguity or succession of presentations, while its rejection leaves us without any explanation of this process, an understanding of which is of the first importance for physiological psychology.

We may briefly consider each of these in turn. Prof. Sherrington[1] has shown that any two systems of sensori-motor reflex arcs of the spinal level which control two antagonistic muscle-groups are in a relation of reciprocal inhibition, such that the stronger excitement of one inhibits completely the weaker excitement of the other, and that if the stimulations are continued the system which is at first inhibited may become active, inhibiting in turn the other more strongly stimulated system: and he has shown that if the sense-organs forming the sensory ends of the two systems are continuously and equally stimulated, the two systems may discharge themselves by their motor neurones, not simultaneously, but in regular alternation, either one in turn inhibiting the other.

The simultaneous stimulation of the two retinæ by rays of different wave length (or intensity) produces, as we have seen above, exactly parallel results. The alternation of the two colour-sensations (or of the two achromatic sensations of unequal brightness) in consciousness shows that the more strongly stimulated sensory tract at first inhibits completely the other, and that, if the stimulation is continued, the latter becomes active and inhibits the former, while if both are stimulated continuously by rays of different wave length but equal intensity there results a regular alternation of activity of the two tracts. In an exactly similar way, on regarding such an ambiguous figure as fig. 7 (p. 482, vol. xii.) the regular alternation of the two modes of perception of the figure implies a regular alternation of the activity of two systems of neural arcs in the upper levels of the brain, and if the activity of one is favoured in any way equivalent to more intense stimulation it continues for some time to be active but then comes to rest and gives place to the activity of the rival tract. In all these three cases, then, there is evidence of alternating activity of two rival neural systems in relation of reciprocal inhibition, and the conditions which affect the alternations of activity and the predominance of one or other system are so similar that we can hardly doubt

[1] *Journal of Physiology*, vol. xxix., p. 64, and a series of papers on the "Reciprocal Innervation of Antagonistic Muscles," in *Proc. Roy. Soc.*

that the process of inhibition is of the same nature in all three cases.

The difficulties of other current hypotheses of inhibition are very great in the case of inhibitory processes in the spinal and sensory levels, but when we seek to apply them to the explanation of inhibition in the higher levels, a further very great difficulty arises from the fact that every higher-level system seems to be capable of inhibiting every other one. If, with the majority of physiologists we assume that inhibition is always effected by the transmission from the inhibiting to the inhibited group of neurones of a peculiar nervous impulse different in kind from, and opposite in effects to, the ordinary exciting impulse, then we have to assume that whenever such a higher-level system is excited it sends such inhibitory impulses either to every other such system, *i.e.* to every organised element of the brain cortex, or to every other system that is in any way excited or about to be excited, cutting short or preventing its excitement. The former alternative implies an incredibly wasteful expenditure of energy, the latter leaves us with the insuperable difficulty of explaining how the inhibiting system finds out which other systems need to be inhibited in order that it may send its inhibitory impulses to them. It would seem that it was the consideration of the latter difficulty that led Wundt to the conception of an apperceptive centre or organ of inhibition in the prefrontal lobes of the brain; this conception has found so little favour in either its psychological or its physiological aspect that it is not necessary to insist upon its unsatisfactory character in this place. The same dilemma meets us if, instead of assuming that the special inhibitory impulses cut short the excitement of all other systems, we suppose with Münsterberg[1] that they in some way block the efferent outlets of all other systems, or of all that are in any way simultaneously excited.

On the other hand, if, in accordance with the evidence adduced in an earlier article of this series,[2] we regard the neural systems of the upper brain-levels as so many organised channels by which a common store of free energy, contained in the mass of afferent neurones and maintained in them at a varying pressure or potential by the streams of energy flowing in from the sense-organs, is discharged into efferent channels; and if also we assume, as we have seen good reason to do, that during the excitement of any such channel its

[1] *Grundzüge der Psychologie*, Kap. 15, "Die Aktionstheorie".
[2] MIND, N.S., No. 47, vol. xii., p. 300.

normal or resting resistance is lowered in proportion to the intensity of its excitement, then it follows that the excitement of any one such system must tend to inhibit that of every other, and that the system, which at any moment is rendered by a constellation of favouring conditions the path of lowest resistance from afferent to efferent side of the brain, will divert to itself and transmit to its efferent neurones the energy which is liberated in the afferent neurones of any other system simultaneously excited and so will inhibit that system.

Now let us turn to the third line of reasoning which, as it seems to me, affords the strongest possible confirmation of the truth of this view of the inhibitory or negative aspect of the attention-process. When any two objects occupy the focus of consciousness in immediate succession, or in other words when the attention is turned directly from one object to another, they tend to become mentally associated so that the recurrence of the one tends to be followed by the recurrence of the other. It is generally agreed that the physiological process corresponding to this establishment of a mental association is the formation of a path of permanently lowered resistance between the two groups of neural elements whose excitement corresponds to the appearance of the two objects at the focus of consciousness. Further, it is generally agreed that the canalisation of such an association-path, the permanent lowering of its resistance, is the result of the transmission of the nervous impulse through it. That is to say, the excitement of one neural system, B, following immediately upon the excitement of another system, A, determines the transmission of a nervous impulse through some chain of nervous elements connecting the two systems. The problem is to understand how this is effected—how does the excitement of system B, immediately following the excitement of system A, cause an impulse to pass from A to B along some intervening chain of neural elements? This question has hardly been defined by most of the writers on physiological psychology, much less answered. The only satisfactory answer that has been suggested is that of Prof. James, namely—B drains A.[1] I am here only attempting to show that this is the only possible answer, to define more clearly the nature of the process of drainage, and to show that it is but a special, though the most important, case of a process constantly going on in all the different levels of the nervous system, namely the process of inhibition by drainage.

Since it must be admitted that the excitement of *any*

[1] *Principles of Psychology*, chap. xxvi., final section.

higher-level system B following immediately upon the excitement of *any other* such system A, may cause the transmission of an impulse or flow of energy from A to B, it is clear that B must in some way guide the discharge of the impulse from A, must attract to itself the energy liberated in A, so determining it to take just one path, the path A B, of all the thousand-fold paths open to it. The generalised statement of this conclusion I have elsewhere proposed to call the *law of the attraction of the impulse*,[1] and I have pointed out that it is necessarily implied in the wider law of the formation of neural habits. The acceptance of any view of the inhibitory process, other than the one here advocated, leaves this attraction of the impulse utterly mysterious, while on the other hand the acceptance of the hypothesis of inhibition by drainage and its application to the higher-levels of the brain explains at once the attraction of the impulse from the inhibited system to the inhibiting system and the consequent establishment of a path of lowered resistance, an "association-path," between them. When at any moment a system of sensori-motor arcs of the upper level, B, is thrown into excitement, it becomes a broad path of low resistance for the discharge in the forward or motor direction of the free nervous energy accumulated in the afferent side of the brain, and therefore it tends to drain to itself energy from all parts; there will be a sudden set of currents towards B from all parts at the moment that B is thrown open, as it were, in virtue of its excitement; and the fullest current will set towards it from that part in which energy is being most abundantly liberated, namely the system A which was predominantly excited at the previous moment, and this fullest current will flow along any channel between A and B which is most open to it and will in some degree canalise it or leave it a still more open path for the future.

Summing up, we may say that when the attention turns from any presentation *a* to any other *b*, the presentation *a* is inhibited and there results an association between *a* and *b* such that *a* tends to reproduce *b*. On the neural side these two effects, the inhibition and the formation of the association, are two effects of the one process, the attraction to the neural system B of the free-energy of the system A.

The hypothesis of inhibition by drainage seems, then, to explain very well the way in which the energy of the mind is concentrated upon the object of attention, and how the keenness of attention depends upon the general awakeness of the

[1] *Primer of Physiological Psychology*, London, 1905, pp. 126, 134.

mind, for it shows how the neural system corresponding to the object of attention concentrates in itself the energy liberated in all the afferent parts of the brain, and how, therefore, the quantity of energy concentrated in this system will be greater the greater is the quantity of free energy present in those parts of the brain. We have in a sense found an explanation of the singleness of the attention-process and of the focus of consciousness.

In this connexion we may briefly consider the bearing of this result upon those strange cases of dual personality or double consciousness, in which two streams of presentation seem to pass simultaneously through two foci of consciousness without interaction or interference. The current explanation of such cases, which has been approved by so high an authority as Prof. Stout, is that all the organised systems of nervous elements which make up the chief part of the brain and which normally constitute one functional group, become divided in some way into two groups which function independently of one another. The view set forth above of the neural processes underlying the inhibitory aspect of the attention-process, makes possible a clearer conception of the way in which two systems of excitement might coexist in one brain. We have only to suppose that the paths which connect some group of upper level systems with the rest of the neural systems of the brain have their resting resistance so raised as to render impossible the drainage of energy from the one group to the other. The systems of one group, while remaining in the relation of reciprocal inhibition to one another, then cease to have this relation to those of the other group, and it becomes possible for any two systems belonging to the two different groups to be simultaneously active; *i.e.*, there are in one brain the neural conditions of two streams of presentations passing through two foci of consciousness.

But although this current explanation of these cases is thus rendered more definite and very tempting by the adoption of the view of inhibition advocated above, I cannot regard the explanation as altogether satisfactory, because it assumes that the essential condition of the unity of individual consciousness is the spatial continuity of neural substance and neural process; and this assumption, although it has been made by authors so distinguished as Fechner[1] and von Hartmann,[2] besides many others, I find great difficulty in accepting for reasons briefly indicated elsewhere.[3]

[1] *Elemente d. Psycho-Physik.* [2] *Philosophie d. Unbewussten.*

[3] "Proceedings of the Psychological Society," *British Journal of Psychology*, vol. i., part iii.

Of the factors of the attention-process enumerated in the first paper of this series three remain for brief consideration, namely, emotional interest, vascular changes and voluntary effort.

Emotional Interest.

When an object is of such a nature as to arouse emotion its perception involves the excitement of a neural system, a congenital disposition, which propagates its excitement to many organs, especially the visceral organs. The disturbances produced in these stimulate the afferent nerves of these organs and so through them send streams of energy back to the brain; and in virtue of visceral circuits, similar to the motor circuits described in the third paper of this series (vol. xii., p. 485), these afferent streams of energy return in the main to those neural systems from which issued the impulses that evoked them. They thus intensify the excitement of the system, and re-enforce that system in its rivalry with all others enabling it to inhibit them; hence by this circular activity which tends to be self-maintaining, like that in the motor circuits, the attention-process is intensified and kept playing about the one object or system of objects, and it is followed by all the effects of intense attention. In so far as emotional excitement operates in this way in re-enforcing the attention-process it must be classed with motor adjustments as one of the accessory internal conditions. These considerations render intelligible a certain rule which for many years I have observed with success when wishing to fall asleep. The rule is to turn away the attention from any train of ideas in which the idea of the self is likely to be involved, therefore from all familiar places, persons and things. For the rise to consciousness of the idea of self is almost always accompanied or followed by some degree of emotional excitement which suffuses the brain with free energy and so prevents that gradual quiescence of the brain which leads on to sleep.

Vascular Changes.

Many authors have regarded vascular changes as playing an important part in the fixation and remission of attention, and for some indeed no other factors seem to have come into view. I attach no importance to vascular changes in this connexion. If we could suppose that neurones were compact cells, that functional groups of neurones were compact groups and that each such group was supplied by a separate arteriole, then we might suppose that changes in the amount of blood

passing through such an arteriole (changes brought about by the products of metabolism of the neurones or by hitherto undiscovered vasomotor nerves) might play some part in the fixation or remission of attention. But the actual conditions are the extreme opposite of these, a single neurone is often inches or feet in length, and the neurones constituting a functional group or system are, probably in every case, intimately mingled and interwoven with thousands of others belonging to other systems, and the vascular supply of a single perceptual system must be drawn from hundreds or thousands of arterioles and capillaries widely separated in space, coming from many different arteries and supplying also parts of very many other neural systems.

Voluntary Effort.

Without entering into the pychology of volition we may briefly consider the nature of its effects on the process of attention. "The volition to attend," says Stout, "is strictly analogous to the volition to move the arm, or perform any other bodily action. It follows from this that our voluntary command of attention must depend on our voluntary command of the motor processes of fixation."[1] And this voluntary control of the motor processes, together with a possible but highly improbable control of undiscovered vasomotor mechanisms in the brain, he regards as the only means of voluntary control of attention. I would accept unreservedly the statement of the first sentence quoted above. The second sentence states concisely a widely current doctrine which, I submit, has no logical foundation. It would seem that this doctrine owes its prevalence to that way of thinking which I have criticised above (p. 333); direct volitional control of motor innervation is accepted as an indisputable and familiar fact, the inexplicableness of which is obscured by its familiarity, while volitional control of any other kind of neural process is denied because of its inexplicableness. That Dr. Stout should have found himself compelled to invoke a purely mythical voluntary control of vascular changes in the brain should lead us to suspect that he has left out of account some important factor. I think we may safely go farther than the first of Dr. Stout's sentences quoted above, and may say that, not only is the volitional innervation of muscles strictly analogous to volitional attention, but that the former is merely a special case of the latter, that all volition works by way of concentration or intensi-

[1] *Analytic Psychology*, vol. i., p. 243.

fication of attention. For according to the acceptable doctrine of Prof. James[1] the idea or sensory representation of a movement is the immediate conscious antecedent of the movement, and it would appear that by volition we can but cause an idea of movement to realise itself, if the non-voluntarily arisen idea has failed to do so, or can cause an increase in the force of the muscular contractions if the idea of movement has realised itself non-voluntarily. How do we achieve this if not by a voluntary concentration of attention upon the idea of the movement? The neural effect of this voluntary concentration of attention can only be, in both cases, a fuller flow of energy from a system of neural elements which has been excited either through peripheral stimulation of its sensory extremities or through some association-path. In the case of willed movement the system constitutes at once the cortical 'centre' for the initiation of that movement and the kinæsthetic 'sensory centre' for the representation of the movement; in the other case it is a system whose excitement underlies the rise to consciousness of some sensory presentation or idea. Whatever may be the conditions of volition, this is its effect in the case of concentration of attention on the idea of movement, and familiarity should no more blind us to the inexplicable character of the effect than in the case of production of sensation by excitation of the elements of the sensory cortex.

There is then, I submit, no *a priori* ground for making this great difference between ideas of movement and other ideas; if volition can directly re-enforce the former class of ideas and if the neural effect is a fuller stream of energy issuing from the corresponding neural system, then we should be prepared to find that volition may have similar effects upon other ideas and upon the neural processes correlated with them.

Clearly, it is for those who put apart ideas of movement, or the processes of innervation of muscles, in a class by themselves to show cause for doing so, and I do not think that this has ever been done. On the other hand, the experiments reported in an earlier section of this paper (pp. 330 and 331) go some way to prove that we can exert direct voluntary control over both ideas and sensations, in the sense that we can, without muscular adjustment or innervation, directly favour one mode of perception as against others or the presence in consciousness of one quality of sensation.

It seems clear that, in the case of voluntary re-enforcement

[1] *Principles of Psychology*, vol. ii., p. 501.

of a muscular contraction, the essential effect is the issue of a fuller stream of energy from the system of cortical elements whose excitement initiates the movement and gives rise to the idea of the movement. And it seems probable that this fuller stream of energy is the result, not so much of a more active metabolism of the neurones of that neural system, but rather of a greater concentration of the free energy of all parts of the brain into those channels, into that system. For the degree of effect of this sort that can be achieved by voluntary effort depends upon the amount of that free energy present in the brain. Thus when I squeeze my dynamometer with maximal effort just after waking from a long sleep it registers only about 70 or 80 kilos., but if I repeat the effort a few minutes later after rising, going into the light and plunging into cold water, it registers about 120 kilos., a difference which implies a very great increase in the amount of energy discharged from the motor cortex. I suggest then that, while all attention involves concentration or convergence of free nervous energy from all or many parts of the brain into some one neural system, voluntary effort results in a further degree of this concentration of energy. I have tried to show how the concentration of energy of non-voluntary attention may be explained by purely physical principles, but I am not sure that my explanation completely accounts for it or that it can be completely accounted for on physical principles, and this is I think still more doubtful in the case of the higher degree of concentration that results from voluntary effort. It is here, if anywhere, that the interactionist must seek in the insufficiency of physical causes evidence of psychical efficiency; here possibly we have a residual effect which, as I suggested on an earlier page, may be evidence of psychical guidance of physical process. If such power of guidance of energy by psychical effort in however small degree be granted to the interactionist, he has all that is needed for his purposes. The world is then not purely mechanical, and biological evolution may be regarded as increasingly teleological, as swayed in an ever-increasing degree by final causes, and we may hopefully look forward to the time when man will control by voluntary effort the further evolution of his species.

IV.—THE FREEDOM OF THE TEACHER TO TEACH—RELIGION.

By Foster Watson.

I PLEAD that instead of shelving the religious problem in schools by effecting their secularisation, the religious problem should be boldly faced. I believe it will have to be faced in the future. For if you recall the names of the great educators you will find that religion in some form or other is behind their best efforts. Vittorino da Feltre in Italy, Dean Colet in England, Luther in Germany, Pestalozzi in Switzerland, to say nothing of such modern schoolmasters as Thomas Arnold and Edward Thring, would not have understood the meaning of education with religion left out. It is no answer to say that these chiefly were concerned with Secondary Schools, and the national problem to-day is with the Primary Schools. For, why should we not give of our best to the Primary Schools? It cannot be that religion is good for Arnold's Rugby and Thring's Uppingham, but bad for the Primary School. Indeed, it might rather be argued that since Primary Schools often include those children whose parents are less able or less inclined to give a religious training, the need for these children to have the best of religious training is all the greater.

I am attracted by the old Platonic *a priori* argument that all government exists for the interest of the weaker, and I propose now to present the case of religion in the school from this point of view. Plato, it will be remembered, in the *Republic*, urges that the statesman, in so far as he is a true craftsman in the art of government, will have no other interest to pursue than that of the development of the highest perfection of his art. He will not seek his own self-interest; still less will he seek to mix up his art with other aims than that of good government as such. He shows what the good governor is by an analogy with the good shepherd. The *good* shepherd does not fatten his sheep for his own advantage:—

> The only concern of the shepherd's art is, How it shall procure what is best for *that*, of which it is the appointed guardian.

So the statesman's art looks solely to the advantage of those who are governed by it. The 'advantage' of the shepherd or the statesman constitutes another art, *viz.*, the art of wages—a very different thing, though often confused with the art itself. There is therefore an intrinsic interest in an art which solely regards the inner aims and development of that art; there are extrinsic interests—which regard other aims than those of the arts themselves—*viz.*, the welfare and personal success and reputation of the 'artist'—or his varied prejudices and opinions in connexion with other subjects. Finally, there are the prejudices and opinions of those outside of his art, who may bring pressure to bear upon him within his art.

Let us consider the case of those outside of an art who venture to interfere, directly or indirectly, with those inside it, and in doing so, let us still take Plato as guide. He tells us that those inside an art, those who have given their whole thought and concentration to the development of their art, are strictly kept within limits, which they dare not, and in so far as they are "artists," cannot transgress. They cannot, as he says, go "beyond" their art. They are permeated with its principles and scientific basis, and are therefore obliged to see all the subject-matter of their art in the light of these principles. There is a common fund or atmosphere of expert knowledge and experience which binds closely together all persons exercising the art. One musician will not "outdo" or "go beyond" another, as far as musical principles are concerned. In fact, all have to conform to the standard of ascertained musical knowledge. Whatever individual differences arise, the appeal has to be made to the court of established musical principles, and is instinctively so made by the musician who is trained in his art. But not so with the untrained outsider. His criticisms are founded on individual prejudices. He sees things, as Bacon would say, from a "den" of his own. So with the trained medical man. He is "limited" by his knowledge, skill, experience in medical principles and their known applications. Not so the outsider, the "quack". The "quack" can go so much further than the man who has studied closely the medical art. The "quack" knows no principles. His interest is extrinsic.

Now let us apply these Platonic conceptions to education. Education is an art—a difficult, complicated, technical art, which requires close concentration for the development of the best educational action, which requires energies similar to those required by the art of music and by the art of medicine. Education therefore has its "intrinsic" interest. For it, all

the topics which come to be considered by the follower of this art, must be studied with a view to being placed in their rightful position with regard to the main purpose and aim for which the art is instituted and followed. It is not only desirable, it is strictly essential, that the subject-matter of this art should be reviewed, and placed in its proper prospective, and be read off in the light of educational principles. The man who follows the art of education must recognise his "limits"—(they are those of the principles of education). He will not go beyond them, but on the other hand, he will be permeated through and through by them.

How about the outsider? Like the unmusical man or the non-medical man, in discussing the subject-matter of the arts of music or of medicine, he will not know the "limits". He will "go beyond" both the educationist and his fellow non-educationists. He is a "free lance". He will see everything from that "den" of his own, which may be dark and noisome, and yet he will not hesitate to try to impose his views on the man who follows the art of education, for he is unrestrained by knowledge, skill or experience in the educational art.

Which, then, is to be regarded as likelier, *prima facie*, to understand his work, the musician, the medical man, the educationist; or the non-musician, the non-medical man, the non-educationist? Briefly, when *education* is in question, who should determine the place of religion in educational training? Should we look to the man who has followed the art of education, or should we think the "outsider," who knows not the principles of the art, the likelier man?

We cannot better illustrate the likelihood that the educationist is, on the whole, the better judge of the educational problem involved than by taking the case of Plato himself. Plato found himself out of sympathy with the religious orthodoxy of his day. He is a severe critic of the conventional view of the gods as held by the Greeks. He is, it is true, an unsectarian, or undenominationalist. The stories of Uranus and Cronos are offensive. They must not be told to the young. "Nor is it proper to say that gods wage war against gods, and intrigue and fight amongst themselves; that is, if the future guardians of our state are to deem it a most disgraceful thing to quarrel lightly with one another." Plato protested that children must not be told the stories of the chaining of Hera by her son, and the flinging of Hephæstus out of heaven for trying to take his mother's part when his father was beating her. It was urged in justification of the teaching of these stories by contemporaries that

these stories were allegories, and could be interpreted. It was asked: May not the stories covered by the honoured names of Hesiod and Homer be communicated to the young? Plato's answer is, No. We see the *educational* quality of his mind in the reason which he gives:—

> A child cannot discriminate between what is allegory and what is not; and whatever at that age is adopted as a matter of belief, has a tendency to become fixed and indelible; and, therefore, perhaps, we ought to esteem it of the greatest importance that the stories which children first hear should be adapted in the most perfect manner to the promotion of virtue.

The modern Christian disapproves of the ordinary conception of religion which Plato combated, but many nowadays would suggest, judging from their attitude in questions of the day, that, in the circumstances, Plato ought to have advocated education with religion left out. But Plato thought education included a satisfaction of the highest needs of the child's nature as well as the lower needs. He—no man more—would urge that knowledge should grow from more to more, but also desired that more of reverence should prevail, especially in the school teaching. His remedy was not secularisation of the schools—but the *enunciation of educational canons for the religion that should be taught to children.* He demanded:—

> 1. That God should never be spoken of in any sense inconsistent with the essence of goodness,—and
> 2. That gods must never be represented as whimsical, fickle, or given to falsehood in any shape.

Teaching opposed to these canons, however supported by the authority of poets or priests, is, in his view, degrading and uneducational. When a poet uses language inconsistent with these canons, Plato stipulates that we should not allow our teachers to adopt his writings for the instruction of the young, if we would have them to grow up "to be as godlike and God-fearing as it is possible for man to be"

Plato, of course, makes short work of the difficulties of securing such teaching. He urges that censors should be appointed to supervise all that is to be taught to the young. Such a method would appear to be a State Regulation of religious teaching. But there can be no doubt that had Plato stated who were to be the censors—they would not have been the representatives of the poets, priests, or even of the people. They would, in all probability, to use modern terms, have been those experienced in educational discipline, in the study of the reactions and effects upon the growing

mind of the sort of subject-matter in instruction of all kinds, including in their reflective outlook religious as well as all other provinces of knowledge, thought and practice which are suitable for the child-mind at its various stages.

But the point I wish to emphasise is that the case of Plato shows that one of the greatest philosophers of all time, in seeing around him the prevalence of religious ideas with which he is entirely out of sympathy, does not come to the conclusion that religion is not to remain an educational discipline, but demands that its place in education shall be determined by its educational significance and in accordance with educational canons. No doubt the Athenians, with their differences of view in the authority to be attached to poets and priests on religious matters, could have suggested that, for the sake of peace, religious teaching should have been dropped. But Plato held that religion had a rightful place in education, and he proceeded to show by *educational standards* the kind of religion that was desirable to compass the educational end. I suggest that Plato as an educationist showed that education was capable of supplying standards for judgment as to the place of religion in the mental development of the child, far in advance of the religious public of his time and with light for an age.

I am not contending that Plato's educational canons are the only or the highest canons for religious teaching to-day. Their virtue consists in their realisation of the educational idea involved in school teaching of religion and their recognition of religious teaching as an integral part of the educational process.

We have seen that he who practises an art must consider the interest of that of which the art undertakes the direction. The governor must govern for the good of the governed; the shepherd for the good of the sheep. So the educator must consider the interest of the pupil. The teacher is relatively to education, the stronger; the pupil, the weaker. Now if the teacher teaches religion—the whole point of Plato's contention is that the religion taught must be suitable to the child's stages of development. Nothing must be taught which will not serve as a basis for further developments later on, but at the same time the subject-matter at each stage must be suitable to the child's capacity. We may go a step further and say that religion (as indeed all subjects of instruction) is not to be taught from the teacher's standpoint, but so as to help the child to observe, to think and to feel as well and as capably on religious matters as in other directions of study.

What place in school education, then, will the religious needs of the child hold? Well, let us clear away one misconception. They will not be the same as those of the man. Science instruction for the child, history instruction for the child, literature instruction, physical instruction, are all different from those for the adult student. Who can tell us what is likely to be of service to him in science, in history, in literature—and in religion? Those, I answer, who have most studied the child's nature, those who have lived with him, those who have tested the reactions of the different kinds of instruction in the mental growth. This is the life-study of the educationist. The man in the street, the man on the County Council, sitting in Committee, or the Board of Education may frame syllabuses of topics; but these "Authorities," as they are ambiguously called, know not what they do. They impose their manhood's view upon the child and the teacher. But a more important question is: What does the educationist say? Is it not time an appeal was made to him? The educator, indeed, distrusts syllabuses laid down by codes for all schools alike in any subject of instruction. In all subjects of school instruction he believes (contrary to the man on the County Council) that it is of comparatively slight importance *what* is taught. The essential point is *how* the teacher teaches what he attempts to teach. The educationist would tell us that the teacher who wishes to teach science will desire to get the basis of a scientific method of observation and way of thinking rather than be concerned with the *amount* of examinable material forthcoming in the child's memory. So the teacher of history should wish to bring about something of the touch of sympathy with great men and great deeds—and the basis of a humanistic training. The teacher of literature should desire to implant the love of exact expression and of noble thought—rather than so many poems learnt by heart, so many obsolete words known, or so many emendations of the text got up from a learned editor—of a poet's works. So with the teaching of religion. The teacher of religion is concerned with the desire to implant the idea of truth, sincerity, of human helpfulness. He is dealing with humanism, and this surely includes in the opinion of most the upward glance towards the universal, the infinite, towards Goodness and Perfection. He must be aware of his responsibility in dealing with the highest things, not only because of the reaction upon himself of the spirit in which he deals with them, but also because of the momentous influence which, if he is not exercising it for good, is being converted

into harm. He does not scout the idea of a religious atmosphere. Plato adumbrated one. Arnold created one, and so Pestalozzi. The atmosphere of reverence is all too rare in the school. It is not less of it that the educationist would wish to see; it is rather more—and purer.

But the "outsider," the "many-headed" people, fear indoctrination into dogma. If they can, through their representatives, limit the teacher to a certain syllabus, are we not safe from dogma in the school? No. If religion is to be taught in the schools, most people would include in the syllabus the Lord's Prayer. Surely that, if anything, is safe from the dogmatist. Yet I once knew a teacher who expounded the first two words of the Lord's Prayer, "Our Father," and told his class to underline the word "our". He observed that "*our*" included all men, and therefore Christ—and since Christ was included, indirectly and implicitly, in using the Lord's Prayer we pleaded His sacrificial merits. There was a dogmatist run wild in the class-room. But he was not an educationist.

As we have seen, Plato would say that he who pursues the art of education, must be an educationist. Here, I believe, is the line of direction for us to take. We must not exclude religion from the field of the school disciplines because our teachers sometimes are not educationists; rather, seeing the unspeakable significance of the art of education, instead of excluding religion, we must see to it that those to whom we commit the work of education in that subject and in all subjects are educationists. The perverted ingenuity of the dogmatist who is capable of pleading Christ's sacrificial merits through the words "Our Father," is just as harmful in other regions of intellectual and moral teaching as in the teaching of religion. The art of education would require him to consider the interest of his pupils whilst he is not only living in a den of his own, but what Plato would regard as far more serious, he does not know that he is blinded. He does not know the "limits" of his art, and so whilst he is professing to follow the art, he is, in truth, an "outsider".

The remedy I suggest is that as a nation we should see to it that those who follow the art of education should be educationists. The pursuit of an art may create artists or artisans. It is comparatively easy to be an artisan teacher. All a man needs is a certain amount of knowledge of technical rules, a list of rules and regulations, full syllabuses to which he is to adhere—and a set of inspectors to keep him up to the letter of official instructions. Such a teacher is

easy to direct. But not so the artist. "It takes a soul to move a body." The artist must have knowledge—*and inspiration.* He must be a cultured personality. The artist-teacher, *i.e.* the educationist, must have a world of sympathetic imagination joined with a well-equipped and disciplined intellect. He must believe in the work of teaching as one of the most interesting and urgent of humanistic functions in the commonwealth. He must care for the intellectual and moral development of his pupils more than for his particular views or predilections in all subjects. It is the mental activity of his pupils with which he is concerned, which he wishes to help—not the propaganda of any sectional views of his own either in science, history, or—religion. *This is simply what is meant by being an educationist-teacher.*

It is reasonable to demand that all teachers shall be educationists. What is necessary for the accomplishment of such a desirable result, is that the country should be prepared to pay the price—necessary to draw men of a sufficient mental and social power into this great work.

"But we cannot trust the teachers in so important a matter as religion." No. That is the root of the matter. The subjects of the curriculum, the syllabus of the subjects, must be drawn up—or controlled by local Education Committees acting under their officials, who may never have taught in a school. The work of teaching must be inspected by Inspectors who may never have taught in a school, or be examined by examiners who have perhaps never entrusted themselves with a class of children in their lives before they took up their present occupation of inspecting or examining. It would accordingly seem that teachers cannot indeed be trusted in the larger or even in the smaller matters of their craft though their overseers are certain to have clear insight. Supposing we said: Doctors cannot be trusted in matters of life and death. Indeed, in the smaller matters of their art, they ought to be supervised—for it is of importance to the commonwealth that people's bodies should be carefully dealt with when out of order. Supposing at critical moments medical Inspectors, without medical experience, came on the scene, on surprise visits, would such action give fair play to the physician who had made his diagnosis, and carefully considered the previous history of his patient? The wonder is, that the teachers have accomplished so much under such a system. For like the artisans, whom the system forces them to resemble, they are supervised by their Foreman, called the Inspector, though unlike the manual artisan, without having the security of the ordinary

artisans that the foreman is himself an experienced craftsman. It is little wonder that teachers cannot be trusted with religious teaching whilst there is the tradition against them of being suspect craftsmen. Of course, things are altering for the better, and we gratefully acknowledge this, but the teacher has the suspicion about him that he is not to be trusted.

I contend that the educationist-teacher is to be trusted in the same way as the medical attendant. The educationist-teacher is to the school what the Professor is to the University. If he is an efficient man, he is entitled to the same freedom. If he is not efficient, he ought not to be in the school. It is thought by some that religion is too sacred to be committed to the treatment of any teachers. Of course it is if they are suspect craftsmen only. We should not entrust our bodies to the care of medical men if we regarded them as mechanics. It is quite right also not to wish to entrust children to religious teaching from the mere teacher-mechanic. But why should we not require our teachers to be educators? Is religion too sacred to be inculcated by the artist-teacher? If the musician finds sacred music fit province for his art; if the architect finds ecclesiastical art as a legitimate province; if the painter paints sacred subjects, and brings his help to the religious spirit—why should not the artist-teacher, the real educator, effectively and helpfully include religion as one of the factors in the development of the character of his pupils?

For the province of the educator-teacher, I take it, is the development of character, by intellectual, emotional and volitional process wherein all subjects of instruction are but the material, out of which process is to mature. The only possible way that I can see to exclude religion from the teacher's province is to say boldly that religion has no place in the formation of character. If directions are given by Education Authorities, the artisan-teacher will do all to order, but the artist-teacher can no more exclude the religious spirit from his teaching even if ordered, than artist-painters like Raphael or Watts could submit to give up painting their ideals so as to accept commissions for designing shop fronts or publicans' signboards. Those who follow education as an art—in Plato's sense—hold that character-development is the real end of education—the development of a "good"-will, as Kant and the Herbartians say, or "self-realisation," as the Hegelians put it. This implies that the school is not merely a place for knowledge-grinding. It should in its degree represent the *search for truth* as the basis of knowledge.

But more than this, the school should seek to cultivate the human sympathies. Herbart, the writer to whom especially educationists of to-day refer, declares that the sympathies, on analysis, concern themselves with humanity, with society and the relation of both of these to the Highest Being. If the cultivation of these sympathies be neglected, then there is a moral atrophy which is a distinct loss to the individual and to the community.

The educationist, be it noted, does not suggest that either knowledge or large human sympathies are "imparted" from without. Education is not something conveyed from the teacher to the pupil. Religious education, for instance, is not the instilling of the teacher's dogmas or tenets *into* the pupil. Every educationist thinks the important matter is the manifestation of the boy's mind in his thoughts, words and actions, and the growing increase in wisdom of them. Jesus, the great Teacher, said it is not that "which goeth in . . . that defileth a man, but that which cometh out". So in education it is the active energy of the mind of the pupil bringing itself to bear on the universe in which he finds himself which needs stimulation and help to reach out for himself into the intellectual, moral and volitional.

Let me state the general principles of religious teaching which educationally are acceptable. Let the teacher keep to the highways of humanism. Teach the important points of morals and religion which have an illuminative bearing upon conduct and life. Do not be didactic; let all so-called maxims or morals arise indirectly. Bring the human side well out in all the material of instruction used—Scripture or other books. Let the spirit of truth meet the spirit of reverence. As far as possible induce the pupils to think for themselves, and encourage them to express their thoughts. Readily accept the statement of their opinion—and help them to be sincere—even if their ideas be crude. If crude, help them to refine. Inculcate, above all, reverence for personality—for this is the basis of both the human and the divine idea, and at the root of it is—will. Always acknowledge with a spirit of gratitude—the 'good'-will—as seen in history, in literature, in Scripture. In matters of the State, teach, as T. H. Green has shown, the very basis of the state is not force, but will. The 'good'-will is to be reverenced as the expression of the right-minded man and the right-minded community. It is, moreover, of importance to reverence 'good'-will, even where we differ from its form of manifestation. For example, in the last generation, Darwin was spoken of as an atheist and infidel. His theory of evo-

lution was described as untrue because of its conflict with early scriptural treatment of the creation. The doctrine of the ascent of man from low origin was stigmatised as impious. Now, the school-teacher cannot settle controversial, religious and scientific questions. But he can himself show his reverence for all sincere effort of will in the search for settlement. To do this, it is necessary for the educationist-teacher to have freedom to emphasise this aspect, and it is the business of religious training to present a fearless and encouraging attitude to all real effort to find truth in every direction. Even in the case of Dr. Colenso, had any occasion arisen for referring to it, the schoolmaster might reasonably have claimed the right to stand unmoved before his boys in the 'shameful panic' (as Dr. Hunter recently described the attitude of the religious world towards that Christian critic of the Bible); not that he should have necessarily accepted his views—but on account of Colenso's call for justice to the native tribes, and the great Bishop's 'passion for truth' and readiness to take pains in the search for it. Those were positive merits of personality and deserved a recognition which they did not always receive. Such teaching of respect for the search for truth is from its nature selective. If it can be correlated with other work, such as history or literature, so much the better. Religious instruction is not merely biblical instruction. I cannot think that any teacher would wish to omit from his teaching the Lord's Prayer, the Beatitudes, the Parable of the Good Samaritan, and the Prodigal Son—and the main incidents in the life of Jesus. Whatever is done in early teaching of religion, it is clear that biographical and concrete forms are usually preferable to any abstract statement of systematic truth. Also, in choice of lessons, it is well to remember that so much in the Bible is beautiful as literature, that such passages as the teacher feels especially to rest lingeringly in his memory he will naturally wish to bring before his class, not authoritatively, but suggestively. Another good method is to let the class themselves choose what they would like as a lesson, if necessary describing beforehand several topics in a general way, so that they can judge as to the likelihood of interest. I claim freedom for the teacher, to choose what he will teach as freely as the topics in the history lesson. As an example, however, I may say with my own boys when I was a school-teacher I never tired of bringing before the boys the twenty-eighth chapter of Job, on the pricelessness of wisdom—one of the matchless pieces of translated literature in the English Bible.

Nor is it necessary for the teacher to confine himself to

the Bible. One passage which I liked to read with my boys and to talk with them about I took from that great man Jeremy Taylor, at the close of his *Liberty of Prophesying*:—

> When Abraham sat at his tent door according to his custom, waiting to entertain strangers, he espied an old man stooping and leaning on his staff, weary with age and travel, coming towards him, who was an hundred years of age; he received him kindly, washed his feet, provided supper, and caused him to sit down; but observing that the old man ate and prayed not, nor begged for a blessing on his meat, asked him, why he did not worship the God of heaven? The old man told him that he worshipped the fire only, and acknowledged no other God; at which answer Abraham grew so jealously angry, that he thrust the old man out of his tent, and exposed him to all the evils of the night and an unguarded condition. When the old man was gone, God called to Abraham, and asked him where the stranger was? He replied, I thrust him away because he did not worship thee: God answered him, I have suffered him these hundred years, although he dishonoured me, and couldst thou not endure him one night, when he gave thee no trouble? Upon this saith the story, Abraham fetched him back again, and gave him hospitable entertainment, and wise instruction. 'Go thou and do likewise,' and thy charity will be rewarded by the God of Abraham.

From such a passage can be gathered what I mean by making the religious teaching selective, and keeping to the high-roads of humanism. There are, moreover, "occasional" lessons which may be of great value. For instance, one of the most impressive religious addresses I remember was an academic address to students gathered together on the occasion of the death of Queen Victoria. This was in a College, but it would have been as fitting in a school.

Systematic theological instruction is a much more difficult matter. It involves so many qualifications, so much knowledge in the teacher, that only few could give it adequately, and after careful training in modern critical methods. As for denominational theological teaching, it is surely sufficient to say that with so many different sects the particular dogmas of each are as indifferent to the educational teacher, and as far apart from his teaching work, as, say, the squaring of the circle to the teacher of mathematics, or the puzzle of perpetual motion to the teacher of mechanics. They are obviously *unsuitable teaching material for the child stage*.

The fact is that the idea of an educationist-teacher is not conceivable easily by the public mind. The idea of a profession of teachers with any inner sense of responsibility, by which they are self-restrained from abusing their position, is as little understood as that of a lawyer who is more anxious for justice than for his own self-interest, or a doctor who cares more for his patient's recovery than for his fees.

Yet I venture to suggest that the recognition of the

freedom of the teacher combined with the promotion from within of a sense of professional responsibility not to abuse his position by presentation of specialistic denominational views, is the way of solution of the religious problem in the schools. The educational teacher knows :—

> Our little systems have their day,
> They have their day and cease to be;
> They are but broken lights of Thee,
> And Thou, O Lord, art more than they.

As a matter of fact, the child needs protection ordinarily far more from the parents and the Sunday school teacher than from the day school teacher. For these, I venture to say, also have no "right" educationally to attempt to control the child's intellect by cultivating in the child a "twist" in some denominational direction. They, too, ought to consider the real intellectual, moral, volitional good of the child, but too often they have not even considered the "interest" of the child, nor have they accommodated themselves to his outlook on the world and the universe. They have not attempted to build up and develop what is already there, but to bring a system of doctrines *ab extra*, and mechanically to superimpose them on his *corpus vile* or perhaps on his *animum purum*. The self-activity of the child-mind should be helped by parent and by teacher to its own desire and search for truth in all directions—not least in religion.

There is one other safeguard against denominationalism—*viz.*, the nature of the child. Complex, abstract, generalised dogma is unsuitable to the child-mind. This may not be recognised by those "outside" the art of the teacher, but it forces itself upon the conviction of the educator-teacher. Any one who will read Dr. James Sully's section on the "Theological Ideas of Children" in his *Studies of Childhood*, pp. 120-33, will see that the attempt to indoctrinate is a grotesque failure. Now, of all people, it is the business of the teacher to know this fact, and hence the best safeguard against such teaching is the sound training of the teacher in the limits of his art, and complete freedom to do his best for the child in the whole problem of character-building.

An emphatic protest ought to be made against the idea that the day school must be reserved for secular teaching and the Sunday school for the religious teaching. The suggestion is an intelligible logical consequence of the specialisation of functions in our time. But the idea in essence amounts to this : that the Sunday school is another of the long list of technical schools of our times, and the possibility

is presented that it, too, as so many technical institutes, will be severed from any broad humanism. But apart from this is the danger that the child receives the impression that religion is for the first day, and secularism for the remaining six. Let us recall the powerful words of Dr. Martineau:—

> We are not made upon the pattern—to be children of nature at ten or eleven and children of grace at four; nor is religion a separate business, a branch of study, a program lesson, that can be emptied out into an hour; but a life of every time, a spirit of all work, a secret wonder in the thought, a manly duty in the will, a noble sweetness in the temper, which spreads from the eye of an earnest teacher, though seldom coming from his lips: but which would cease to burn in his silent looks, were these not sacred things represented by him, of which at any moment he might speak.

With these words before us, let us pause before we say we want the secularisation of the schools without any qualification. Finally, let it be remembered as a matter for wonder and concern that in the conflict of sects and denominations it is not the teachers who have asked to be relieved from religious teaching. On the other hand, it is largely religious people "outside" the art of education who are dictating to the whole body of teachers that the latter are to exercise the self-denying ordinance of severing all religious implications from the school in obedience to a political dogma of secularisation of the schools. Let it be remembered a teacher may have, and the best teachers will always have, a *pedagogical conscience.* If so—Must the pedagogical conscience of the teachers necessarily give way to the political consciences of outsiders? Should not teachers be consulted on a question which concerns their own art? Plato would say that those who pursue the art ought to be both consulted and followed. But the teacher is a paid servant of the local Education Authority. It is a serious national question whether he is to be treated by those Authorities as a mechanic or as a master of the art of education. St. Ambrose is credited with saying: "The civil authority has no right to interdict the liberty of speaking, nor the sacerdotal to prevent speaking what you think". The secularisation of the schools is a political call of expediency. What has that really to do with the educative process? What we really want is the broadest and highest humanism in the schools. It is rightly considered for those who pursue the art of education to determine what is necessary to the complete concept of education. Even the Board of Education is beginning to think that probably the teachers might be permitted to have a part in the examination of their own classes. But the question before

us is even more vital. Should not teachers have a part in deciding whether secularisation of the schools is compatible with the full humanistic concept of education? May they be free to teach of their best and highest in all subjects—*except one?* The teaching of religion in the schools is a difficult one, but its scope and limits and methods can, in my opinion, never be settled satisfactorily without consultation of those whose life-study is the art of education.

V.—DISCUSSIONS.

PRAGMATISM AND PSEUDO-PRAGMATISM.

Prof. Taylor's rejoinder (in N.S., 57) to my criticism (in N.S., 54 and 55) of some of his recent utterances is so interesting and relevant that it is a real pleasure to reply to it. It has however two sides. The first will doubtless have been welcomed by all interested in the questions of the hour as throwing a great deal of light on several of the darkest corners of the pragmatic controversy, and as contributing the most lucid statement of some intellectualist objections the exact meaning of which has long been a puzzle to all of us, in short as eminently calculated to dispel much of the fog which has hitherto enveloped the real issue. Personally I feel that I now know almost exactly where Prof. Taylor stands, and though he has not come out quite where I expected, I am abundantly grateful to him for clearing up the situation. I can only hope that if I reciprocate in a similar spirit of frankness, he will be able to say the same for me and that the fog will then be wholly gone.

The other side of Prof. Taylor's article consists of personal grievances and accusations against me, concerning which he seems to me to have said rather more than was either just or necessary. I shall however refer to these as lightly as possible, partly because of my gratitude for the enlightenment aforesaid, partly because I was provoked to give him the annoyance of looking up a good many references (whereof one was I grieve to say misprinted), for which allowance must be made, and, lastly, because it is a waste of time to bandy words with an opponent willing to argue honestly.

Prof. Taylor's main grievance is that he should have been suspected of syncretism, *i.e.* of attempting to graft on his old stock of absolutism doctrines springing from much younger roots: but I am at a loss to apprehend why he should take this as an insult. I can well conceive, and readily pardon, an absolutist philosopher ransacking all markets in his desire to enrich the barren doctrine that the Absolute is absolute. And though in this case the rival views look in some lights incongruous enough, I dare not (as yet) affirm it impossible for a philosopher, who fully realised the weakness of the absolutist and the strength of the humanist position in certain respects, to succeed in combining them. There was there-

fore nothing antecedently preposterous in supposing Prof. Taylor to have made this attempt. Besides both before and since he has given marked proof of a susceptible and syncretist temperament.[1] To take therefore Prof. Taylor's language (of which I gave a representative, though not an exhaustive selection) as aiming at such syncretism was exceedingly natural. It was in fact so taken in several quarters, and the mistake, such as it was, was not mine alone nor in the first instance. My own attention indeed was first called to the matter by an approving friend, and it was because of the marked similarity between Prof. Taylor's language and ours that I was moved to scrutinise his book so closely. As a result I was puzzled. Many of Prof. Taylor's utterances were distinctly what one may call 'pragmaticoid,' but it seemed on the whole more probable than their pragmatism was not genuine. Still it required very close reading to perceive that he could not mean what he seemed to say. And even when subsequently he came forward as the champion of intellectualism in the *McGill University Magazine* and the *Philosophical Review* a doubt remained.

In view of this difficulty and of the fact that Prof. Taylor was still happily alive to be questioned, I thought it best to challenge him by inquiring point-blank what he had meant. The success of this challenge is attested by the explicitness of his reply. It entirely removes all doubt as to what, psychologically, Prof. Taylor means. He does not mean to be a pragmatist, and if he has talked pragmatism it has been as M. Jourdain talked prose. But it does not follow that he did not talk it, and that his explanations are as good for others as for himself, and have succeeded in rendering his system logically coherent. The syncretism has not been eliminated but confessed, and it seems to be more deeply rooted in its structure than even now he realises. I am willing indeed to admit that this syncretism is somewhat different in kind from what I supposed. But I am now quite convinced that my criticism was justified both by the admitted laxity of Prof. Taylor's language and the grave tactical error of using 'pragmaticoid' phrases without warning the reader that they did not mean what they might very reasonably be taken to mean.

I.

I proceed to consider Prof. Taylor's explanations of the incriminated doctrines in detail. They were, he assures us, derived from

[1] Most recently *e.g.* in adopting the language, and on many important questions the views, of Mr. Russell's symbolic logic. And in one desirous of remaining an intellectualist this is doubtless wise. For though this latest of philosophic developments departs from absolutist 'orthodoxy' quite as far as Humanism, albeit in a diametrically opposite direction, and will, when fully constructed, probably be found to be just as incompatible with it, it appears to be intellectualist to the core, and at least avoids the confusion of logical with psychological considerations which vitiates the traditional 'logic'.

a variety of sources, and that they converged in the same direction was a coincidence; the case against them was based on 'misapprehensions' or 'commonplaces of philosophic thought'.

(1) Among the latter he reckons his constant use of purpose and teleology, seeing that the 'categories' of end and purpose go back to Plato, Aristotle and Leibniz, all of whom he regards as absolutists.[1]

Now I am quite willing to believe that historically these categories entered Prof. Taylor's mind from the study of Plato and Aristotle, and that he is indebted for their application to Profs. Ward and Royce. But this explanation hardly seems logically sufficient seeing that (1) much prominence has been given to the definition of pragmatism as 'a thorough-going recognition of the influence of the purposiveness of thought on all our cognitive activities'; (2) that this was emphasised just because current absolutism has tried to ignore a feature so inconvenient to itself; and (3) that he had himself been expressly challenged to show how an Absolute could have a purpose. Or can it really be that Prof. Taylor has not yet become aware that there is a difficulty here, a difficulty, that is, in conceiving an Absolute, which is really absolute, *i.e.* a Whole which is complete, possessed by a purpose of completing itself?[2]

I hope therefore it will not be thought churlish of me to say that what was wanted was not an account of whence Prof. Taylor took his ideas on the matter, but a proof of their logical congruity with his absolutism. And no appeal to Messrs. Ward and Royce (and still less to the ancients) avails him here. Indeed it seems

[1] I cannot imagine why Prof. Taylor should attribute to me an insane desire to "put Plato, Aristotle and Leibniz under a ban". I have often expressed the greatest admiration for them all. They were all intellectualists no doubt, in some respects, but not one of them can properly be called an absolutist. Leibniz was (predominantly) a pluralist. Plato and Aristotle were both dualists, as even Dr. Caird reluctantly admits. Moreover, Aristotle's account of the practical reason (*φρόνησις* is pure pragmatism, while Plato's Idea of Good verbally and in meaning coincides with the definition of pragmatism quoted above. As regards this particular question, moreover, they both had a perfect right to be teleologists, seeing that neither of them identified the good with the All, and that this identification is just the great moral and metaphysical stumbling-block in the way of absolutism. I can only suppose therefore that Prof. Taylor is not referring to the historic doctrines of these thinkers at all, but to some strangely mutilated form thereof which he has seen exhibited in some of his "Anglo-Hegelian lecture-rooms".

[2] Prof. Bosanquet apparently prefers to fling himself upon the other horn of the dilemma. He conceives the Whole as in 'change or progress' and therefore in 'time' (N.S., 57, p. 10). But the result is merely to attribute to the Absolute (with Lotze) a causeless and meaningless instability (*cf. Humanism*, pp. 73-75, 78). The mischief lies far deeper. The recognition of ends and purposes always rests ultimately upon selection of some kind. But the Absolute or Whole stands for a principle not of selection but of all-inclusiveness. It cannot therefore be credited with selective emphasis on any of its 'parts'.

queer to apply to those eminent writers for a guarantee of a Bradleian metaphysic, seeing that both of them have published searching criticisms of *Appearance and Reality*, and that it is quite easy, and even necessary, to understand and develop the doctrines of both in a pragmatist way.

(2) Prof. Taylor assures us that it is a misapprehension to regard his phrase about 'the instinctive demand of the intellect' as an approximation to our views. It was prompted by an aphorism of Aristotle's and a jest of Mr. Bradley's.[1] I fully believe it. But here again the question is as to the justification. For what business have 'instincts' and 'demands' in what professes to be a pure rationalism? The addition "of the intellect" no doubt makes a difference. But, I should have thought, *for the worse*. For if 'instincts' and 'demands' penetrate into the very intellect, does not this go far to prove our contention that the intellect itself is not 'purely' intellectual? And of course nothing I said ever implied that I regarded this single remark as 'committing' Prof. Taylor to the whole pragmatic doctrine.

(3) As regards the admission of postulates into science Prof. Taylor's explanation seems to read a little lamely. He mentions no sources for his inspiration, but excuses himself for ascribing a postulatory structure to science on the ground that no one could help seeing it. I could applaud the sentiment without reserve, did I not remember how very recent the discovery is, and how long the principles of all the sciences were all supposed to be 'axiomatic' truths. And even now it is incomplete. Prof. Taylor himself retains 'axioms' in metaphysics, although (as I have shown and as he has not attempted to dispute) he gives no clear account of what they are, how they are to be known and how they are to be distinguished from postulates. He merely appeals to the very deceptive (and entirely psychological) test of 'self-evidence'. He likewise excepts from the general procedure of the sciences the single science of arithmetic, in which he is confident that no postulates can be found. Thus arithmetic, in spite of its scientific isolation, appears to be "the one pinpoint of the truth" upon which, more heroically though more painfully than St. Simeon Stylites, Prof. Taylor once peroratingly declared himself willing to take his lifelong stand.[2]

Now he had said all this before,[3] and I had duly noted it. But unfortunately the nature of arithmetical assumptions is too large a subject to be discussed on this occasion. It may however give Prof. Taylor some suspicion of the real complexity of these alleged

[1] For presumably no one would be willing seriously to describe *his own* metaphysic as "the finding of bad reasons for what one believes upon instinct". Before evolving a serious doctrine out of it Prof. Taylor should have reflected that the brilliant epigrams of which it forms one must have been put into the preface of *Appearance and Reality* because they would *not* have fitted into the text.

[2] *McGill University Magazine*, p. 66. [3] *L. c.*, p. 55.

'axioms' to inform him that in lecturing on this subject I find it necessary to distinguish under *eight* heads the elements in them which rest on postulation, and under *five* those which depend on sheer empirical fact! For the most purely rational of sciences that is not a bad showing!

Even apart from such debatable matters I am surprised that Prof. Taylor should be content to accept the situation as he conceives it, to accept, that is, the postulatory procedure of nearly all the sciences as sheer fact, deserving of no special comment and possessing no significance for his theory of knowledge. If mine had got itself analogously entangled with an alien principle, I should have felt very uncomfortable, especially if I were also aware that the whole of the evidence to which I had pinned my faith was disputed by my opponents.

(4) Prof. Taylor assures me that he meant nothing pragmatic in speaking of thought as an instrument and of the intellect as an "intermediary between a lower and a higher level of immediate apprehension," and thinks that the context should have made this plain to me. Contexts notoriously are difficult things to allow for. However, in the first case I am quite willing to accept the interpretation of his context which Prof. Taylor now gives. The whole argument, he says, was an "objection to the attempt to study the knowing faculty apart from the actual contents of knowledge".

This is excellent, and even more to my liking than his original statement. For it exactly expresses our objection to the intellectualist severing of logic from psychology. But it seems inconsistent with Prof. Taylor's attitude on page 84, where he would admit no connexion between logical consequences and actual inferences.[1] And it seems to square ill with Prof. Taylor's conception of metaphysics as an '*independent*' inquiry into the general nature of reality, which is unaffected by the results of the sciences.[2] For do not those who thus conceive it attempt to enunciate general truths "apart from the actual contents of knowledge"? I cannot therefore but adhere to my previous conviction that, even though psychologically Prof. Taylor did not realise the scope of what he said, his remark remains connected with the instrumentalism of Prof. Dewey, and the humanist doctrine of the teleological nature of concepts, which was enunciated by Prof. James so long ago as 1879.

With regard to the intermediary function of thought on the other hand I appear to have in a manner misunderstood Prof. Taylor. I took him to refer to the fact (which well illustrates the purposiveness of thought and has an important bearing on the relation of intellection to perception), that judgment enriches perception and that mediate processes of cognition are ever returning to the immediate form, to which I had myself referred in

[1] Cp. a similar argument in *Phil. Rev.*, xiv., 265-288, and below, p. 389.
[2] Cp. *Ele. of Met.*, first and last chapters.

Humanism, page 199, and which I have now discussed further in the *Journal of Philosophy*, iii., 9. I had, of course, stripped off the mystical language and the reference to the Absolute in order to get at the scientific meaning of Prof. Taylor's remark, but if he considers these essential, I have nothing more to say to it.

I am glad that Prof. Taylor has taken the opportunity of explaining to what extent and in what sense he regards identity as postulatory, even though that sense seems to be nugatory. For his treatment of this point in his book seemed to be so obscure that I did not feel at all sure about it, and I therefore only referred to it lightly in passing. I must still maintain however that, but for Prof. Taylor's assurances as to his actual state of mind, no one could do otherwise than regard the passage I quoted (p. 354) as clearly subordinating the fundamental conception of the intellect called 'identity' to practical purposes. In the 'physical order' at all events it asserts that identity is not 'found' but 'made' or 'taken,' and it plainly renders the 'purpose' which 'identifies' the condition of the 'identity's' existence.

Elsewhere Prof. Taylor goes further and roundly asserts that "all identity appears in the end to be teleological" (*Ele. of Met.*, p. 335); I thought it safer therefore to credit him with more insight into the real nature of this 'axiom' than he now confesses to. I am sorry that Prof. Taylor declines to recognise its complexity, but possibly the reason is that he has so completely misunderstood my attempt to analyse its structure as actually to attribute to me the view that *all* 'identity' is a matter of postulation.[1]

What is even more regrettable perhaps is that if he had not disclaimed my interpretation, his philosophy would have been relieved of awkward questions such as these. How, if we only 'recognise an identity which already exists,' can postulation be said to come in at all and in any sense? What are (human) 'purposes' doing in face of an unalterable order of absolute fact? How does such fact 'call for recognition'? And why does it need to *call?* And if it is not true that we run the risk of calling things *the same* because they look *similar*, and only call them the same when they look the same, will not our reasoning speedily come to a stop? And has not the logical axiom thereby been reduced to a psychological accident? And can an intellectualist logic consistently regard a psychological incapacity to discriminate as a legitimate basis for an 'axiom'?

If Prof. Taylor will try to answer these questions for himself, I should not wonder if he came away with a deeper insight into the function of human cognition in apprehending 'independent' fact and 'absolute' truth than any which intellectualism has as yet vouchsafed us. He may even come to think better of poor 'Edwin's' first attempts to construct the 'identities' he 'recognised'.

[1] Contrast *Personal Idealism*, pp. 95-97.

(5) We come lastly to Prof. Taylor's double criterion of ultimate truth and the 'three' (really *two*) passages in which his empiricist version thereof is enshrined. The first of these Prof. Taylor holds to be irrelevant because "it would be quite possible to maintain that nothing is real but experience, and yet to hold that this conclusion itself must be based on other than empirical grounds, in fact to be at once an experientialist in one's metaphysic and a rationalist in one's logic," and this is 'in fact his position'.

I confess to a gasp. I had not suspected Prof. Taylor of so remarkable an enterprise, especially in a context which seemed to insist only on the priority of immediate psychical experience to thought. And even on reflexion, it strikes one as a singularly infelicitous undertaking. For if the logical grounds of metaphysic are to be rationalistically conceived as "other than empirical," and yet "nothing is real but experience," must not the basis of the system be sought in the unreal? And even if Prof. Taylor does not mean this, but has lapsed into an ambiguous use of the words 'experience' and 'empirical' and regards his *a priori* reasonings as really falling within experience, is he not proposing to make a part of reality the criterion of the whole? And has he not bound himself to provide *an a priori rational deduction of the possibility of all experience?* This is, I believe, what even Hegel is now said to have been unjustly suspected of attempting. Anyhow, whether he makes the attempt or not, his doctrine will exemplify one of the most persistent of the failings of intellectualism, *viz.* its tendency to exalt the rational at the expense of every other aspect of reality.

The 'second' passage Prof. Taylor admits looks like empiricism; but he 'had always vaguely supposed himself to have got it from Aristotle,' and I have 'concealed the all-important point that the trial referred to was purely logical and *a priori*'. But as before in the case of the postulates, I was concerned with the principle and not with the limitation Prof. Taylor arbitrarily imposed on its use. Once it is admitted as a principle that a claim to truth may be tested by trying how it works when applied, why should its applications be restricted *a priori?* Besides to my thinking the distinction between '*a priori*' and '*a posteriori*' is only relative and therefore not here relevant.

As for the third passage Prof. Taylor's defence seems to come to a replica of what he said *sub* (4). For the reasons already stated, it still seems to me to tell distinctly on the empiricist side.

Considering Prof. Taylor's explanations as a whole therefore I must repeat that though they are beautifully explicit and psychologically quite satisfactory, they are not logically adequate. In other words Prof. Taylor must be acquitted of any intention to be pragmatic, and I must apologise for suspecting him of departing so far from the path of orthodoxy: but I may still hold that he has said things of which the meaning and implications are inconsistent with his absolutism, and we now have it on his own

authority that some of these utterances really were derived from sources alien to it and more akin to my own views. Perhaps we may agree to call these dicta *pseudo-pragmatic* and expect to find them extensively modified in the next edition of Prof. Taylor's book.

II.

The earlier part of Prof. Taylor's article challenges me to give a pragmatic explanation of some choice specimens of 'useless' knowledge, and urges some objections which I shall have great pleasure in meeting. But before taking up these matters, I must correct some misapprehensions of Prof. Taylor's concerning points of secondary importance.

First as to his inaccuracies in quotation. I only referred to them in passing (N.S., 55, p. 353), and they are worth a mention only because he had thought fit to censure Prof. James for citing the *McGill University Magazine* as the *McGill Quarterly*.[1] One of these moreover has become so habitual with our critics that I do not wonder that Prof. Taylor has difficulty in discerning its existence. He glibly criticises on page 60 "the doctrine that 'the true is the useful,'" as if that were identical with the assertion that 'the true is useful' and I had not found it necessary to draw out the formal implications of this latter in *Humanism*, page 38. Not only that, but a little lower down Prof. Taylor indulges in the very 'simple conversion of an A proposition' which I had deprecated in advance, when he infers that "all useful things are true things". As I had also pointed out, such conversion would have involved us in a denial of useful fictions.[2]

The other looked more invidious. I had said[3] that the disguise of Mephistopheles as a mediæval devil had apparently deceived "all the other characters *in Faust, except the Lord*," and all Goethe's readers except myself. Prof. Taylor thereupon remarked that I shared, by my own confession, "with the Supreme Being the unique distinction of being the sole person in the universe to have fathomed the inner meaning of Goethe's *Faust*". That is he attributed to me a claim to share with the Deity what I had really professed to share with Goethe. The difference and the inaccuracy are, I should think, fairly obvious. For '*Der Herr*' in Goethe's *Faust* is the Deity as little as the Absolute in Prof. Taylor's *Elements of Metaphysics* is the ultimate explanation of the universe. However Prof. Taylor wholly disarms any resentment I might have felt by now explaining that he was making a joke! But that I of all men should thereupon be charged with curtailing any philosopher's liberty to make jokes! I hope on the contrary that Prof. Taylor will make more 'jokes' and better ones. Still it is worth remembering that even in jesting it is better to make the cap fit.

Secondly I must disabuse Prof. Taylor of a notion that a merely

[1] *Phil. Rev.*, xiv., 265. [2] *Humanism*, p. 37. [3] *Ibid.*, p. 168.

autobiographical remark of mine about my feelings towards Prof. James's critics had any reference to himself. The time referred to was considerably anterior to the date of any of Prof. Taylor's publications.

It is a mistake again to read 'disapproval' into my suggestion that on one occasion Prof. Taylor may have been 'overzealous' in controversy. If I had intended that, I should justly have exposed myself to Prof. Taylor's rebukes. But I can assure him that I have no sort of objection to controversy. Far from it. I like it. And I do hope Prof. Taylor will not stop on my account. Truth moreover has nothing to fear from controversy. It introduces a human element into science, which is always stimulating and often enlightening and efficacious in clearing up confusions and misconceptions. Indeed I feel sure that if, when the new issues were first raised, they had been honestly argued with instead of being met first with attempts to burke them and then deprecated in *quid-me-alta-silentia-cogis-rumpere* tones, we should all understand both them and each other much better, and be on much pleasanter terms to boot.

No; what I was really remarking on was simply the fact that Prof. Taylor had neglected to back up a very sweeping assertion by illustrations. I feared that he had been carried away in the heat of the argument and asserted more than he could substantiate. But now that he has given me three beautiful examples of what he means by assertions which differ as proved truth and demonstrable contradiction while their practical consequences are indistinguishable, I apologise for my suspicion. It will appear later whether by thus repairing his omission Prof. Taylor has also helped his cause.

Lastly Prof. Taylor misses a very simple point when he rebukes me for taking him for an extreme intellectualist. So far from thinking him that, I was disposed to question rather whether both he and his master ought not to be far *more* intellectualistic in order to be safe in their intellectualism.[1] Nay, Prof. Taylor's seemed to me so shaky that I even thought it possible that he might be on the verge of giving it up altogether. The point of my criticism therefore was that the place he gave to emotion, etc., was inconsistent with his intellectualism. And I am astonished that he does not see this to be the plain meaning also of the passage he complains of. It was a comment merely on the (to me) incongruous combination of emotional interests and desires to know with an insistence on a belief in 'pure' thought.

Prof. Taylor's manifest failure to see this difficulty moves me therefore to ask him point blank what he takes 'pure thought' to mean and to be '*pure*' *from*, if not from emotional and volitional contaminations? Have a 'disinterested' interest and a 'pure' thought dependent on emotion never struck him as paradoxes?

[1] For my view of Mr. Bradley in this respect, cp. N.S., 52, p. 525.

Verbal (?) contradictions of this sort seemed to me to run through all his utterances: on the one hand he was strenuous on behalf of 'pure' thought, on the other he emphasised the importance of the emotions which sustained the intellectual life. This could not, I thought, be pure inadvertence. So I tried to elucidate it on the analogy of Kant's refusal to regard the 'pure respect for the moral law' as psychologically classifiable with the other feelings; but I confess I do not really know what Prof. Taylor can mean.

III.

We now come to what is theoretically the most important part of Prof. Taylor's paper, and also that most welcome to me as being the very thing I had long asked for, *viz.* his illustrations of absolutely useless knowledge. I must begin by expressing my gratification that I should have persuaded him of what I had to point out in N.S., 54, p. 238, *viz.* that there is a good deal of the truistic about pragmatism. Its fundamental principle is *almost* a truism, because in 99 out of 100 cases of recognised truth the test whereby this is established is pragmatic. But not quite, as Prof. Taylor supposes. For in the 100th case, it turns out that the alleged 'truth' is no truth at all. Now I had rashly supposed that the bitterness of the absolutists' opposition to the new theory was due to their perception of the deadliness of the pragmatic test in the 100th case, and that they denied its applicability to the 99 in order to preclude its application to the 100th. But now Prof. Taylor has made it clear that they have actually never understood its application to the 99! This astonishing fact is revealed by his choice of examples.

It comes out best in his second example, which I will therefore take first. It is just the sort of simple and elementary example one might choose to illustrate the *working* of the pragmatic test of truth! The impossibility of answering truly the question whether the 100th (or 10,000th) decimal in the evaluation of π is or is not a 9, splendidly illustrates how impossible it is to predicate truth in abstraction from actual knowing and actual purpose. For the question cannot be answered until the decimal is calculated. Until then no one knows what it is, or rather will turn out to be. And no one will calculate it, until it serves some purpose to do so, and some one therefore interests himself in the calculation. And so until then the truth remains uncertain: there is no 'true' answer, because there is no actual context in which the question has really been raised. We have merely a number of conflicting possibilities, not even claims to truth, and there is no decision. Yet a decision is possible if an experiment is performed. But this experiment presupposes a desire to know. It will only be made if the point becomes one which it is practically important to decide. Normally no doubt it does not become such, because for the actual purposes of the sciences it makes no difference whether we

suppose the figure to be 9 or something else. *I.e.* the truth to, say, the 99th decimal, is '*true enough*' for our purposes, and the 100th is a matter of indifference. But let that indifference cease, and the question become important, and the 'truth' will at once become 'useful'. Prof. Taylor's illustration therefore conclusively proves that in an actual context and as an actual question there is no true answer to be got until the truth has become useful. This point is illustrated also by the context Prof. Taylor has himself suggested. For he has made the question about the 100th decimal important by making the refutation of the whole pragmatist theory of knowledge depend on it. And what nobler use could the 100th decimal have in his eyes? If in consequence of this interest he will set himself to work it out, he will discover this once useless, but now most useful, truth, and —— triumphantly refute his own contention!

I pause before passing to the other illustrations, in order to correct a serious mistake as to the nature of the pragmatic test into which Prof. Taylor has fallen. He repeatedly (pp. 82, 83) assumes that when two practically equivalent assertions are found, I must say that both are 'meaningless'. But this is not at all what I am bound to do.

It was the earliest and simplest formulation of the pragmatic test to declare that when there is no practical difference between two assertions, *they mean the same*. They may both be true, or both be false, but neither of them need be meaningless, and clearly if the one is not, the other cannot be (except of course in so far as it claimed to be an *addition* to the knowledge conveyed by the other, in which case it may be called meaningless *qua* such an addition). *All that is meaningless is the difference between them, and so the question about them.* For this obviously disappears if the alternatives have coincided and the question is reduced to one between two verbally various forms of the same meaning. It is this, the original 'principle of Peirce,' which I have always upheld and which any one familiar with the principle must have seen to be implied in what I said. Prof. Taylor, however, has confused the meaninglessness of the difference between two assertions with the meaninglessness of the assertions themselves. And so it is no wonder he finds the whole pragmatic theory hard to take in. I am a little ashamed to labour so simple a point at such length, but I fear this error may be more widespread than I had suspected.

Before going on I must also come to an understanding with Prof. Taylor as to the meaning of the term 'practice'. It is my duty to warn him that he is not entitled to take for granted my assent to his conception thereof. When Mr. Bradley proposed to define it as the *alteration of existence*, I at once protested[1] and gave some reasons for objecting. Prof. Taylor's present definition,[2] though very similar, is yet less explicit than Mr. Bradley's

[1] N.S., 52, p. 534. [2] Like that in *Elt. of Met.*, p. 121.

on a vital point. Does "the origination by individuals of changes in the temporal order of events" include alterations in their own thoughts and those of others? If it does, 'practice' will spread over the whole of Prof. Taylor's 'theoretic' field: if it does not, all human agency will be excluded from 'practice'.[1] In either case the definition reduces to absurdity.

I must warn him further that in formulating my theory of knowledge I have always laid the chief emphasis not on its relation to 'practice,' but on its relation to *purpose*. The 'usefulness' of truth is a direct corollary, not from the supremacy of 'practice' over 'theory,' but from the purposiveness of thought. That is why I have repeatedly and unequivocally contended that there is no such thing as 'theory' independent of 'practice,' because ultimately both are relative to purpose.[2] Our critics, on the other hand, while descanting on this antithesis, have been strangely silent about the more fundamental doctrine which transcends it. Prof. Taylor therefore has a great opportunity of showing himself superior to his friends by telling us whether or not he admits the purposiveness of mental life, and if he does, whether or not he thinks that it influences our cognitive activities.[3] And it is the more imperative that intellectualists should speak out on this point, because if it is conceded, the whole of the pragmatic theory of knowledge may be shown to follow inevitably.

It follows from this that, when a truth is said to be useful, it may be so for any purpose, however 'theoretic' it may seem in the first instance, though ultimately, when the systematisation of ends is fully carried through, it must be useful also for the highest end of life, *i.e.* for what *I* should call 'practice'. Hence a proposition concerning the ideal creations of a science like arithmetic is true when (1) it tends to the development of the science, or (2) of another science, or (3) that science as a whole has useful applications to human life. It is unreasonable to expect every detail to be directly applicable; but when a system of thought loses its application to life it ceases to be a science, and becomes an intellectual game and is useful only as such.[4]

If this be borne in mind it will scarcely be necessary to concern ourselves very elaborately with the technical analysis and justification of what are called 'transfinite numbers'. In spite of its formidable appearance I have been utterly unable to detect any relevance in Prof. Taylor's 'illustration,' and cannot conceive

[1] I may suggest as an alternative that to define the practical as '*whatever tends to the control of events*' will be found fairly adequate to the sense in which the word has been used by us.

[2] N.S, 52, p. 533, and N.S., 55, pp. 361-362, which latter passage Prof. Taylor ignores in spite of the italics and the direct application to himself.

[3] Cp. N.S., 54, p. 237.

[4] I have never denied the existence and academic importance of such intellectual games. Nor does Pragmatism deny their usefulness as such. It is only disposed to question whether (like other games) they have not been a little overdone.

how or of what it is, in his opinion, an illustration. I cannot see, that is, how the 'transfinites' can be used as an illustration of 'useless truth,' for the simple reason that they appear themselves to exemplify the usefulness of number. They are, that is, not numbers at all, properly speaking, but *a use of number*, proceeding from an application of number to space, and the paradoxes they involve would seem to be ultimately reducible to the old difficulty of representing the continuous by the discrete. Since Zeno's days this has been recognised as a thorny problem; but how can it possibly affect the validity of number? I cannot therefore understand how the use of 'transfinites' in numbering space intervals can possibly refute any theory as to the nature of number, and can only infer that Prof. Taylor has either mistaken the nature of the 'transfinites,' or (more probably) that of the issue between us.

If however Prof. Taylor dissents from this conclusion I must beg him to make his point a little more explicit. To make his 'illustration' good, let him show us (1) that the 'empirical' and the 'rationalist' theories of number are the only two conceivable and that one of them is right (for if they are *both* wrong, they will not illustrate his contention); (2) that they are strictly incompatible, and (3) that there is an issue between them to which the 'transfinites' are relevant. He should next show us (4) how he conceives the 'transfinites' to arise, and (5) to bear on either theory, and (6) explain what are the 'marked logical advantages' thereby accruing to one of them. Lastly (7) he should try to show how these 'advantages' constitute one theory of number a 'proved truth' and the other a 'demonstrable contradiction'. As regards this last point his language was indeed far from confident, though it would hardly lead one to infer that many competent mathematicians (very reasonably) consider the 'transfinites' as equally compatible with either theory. As regards the other points he was wholly silent. To have argued them all would no doubt have been a long and arduous task, but an illustration which cannot be rendered intelligible without technicalities which had to be avoided was surely a bad one. And it was at least necessary to show that it was relevant, which, so far, it does not appear to be.

I pass therefore to Prof. Taylor's third illustration, that from metaphysics. This I may claim to have answered by anticipation. If it were true that neither Berkeleian nor any other idealism made any practical difference to the 'every day realism' on which we act, it would add nothing to our knowledge and be held to collapse into a meaningless subtlety, a distinction without a difference. Needless to say, however, this was not Berkeley's opinion: he ascribed to his theory the utmost moral value as disposing of materialism. Nor is it mine; Prof. Taylor can find a discussion of the practical difference a real belief in a real idealism should make in *Humanism*, pages 197-198.

The notion therefore that Berkeleianism makes no practical difference is Prof. Taylor's, and is no doubt what has helped him to the conclusion that Berkeleianism is false and open to a 'formal logical disproof'. That this should be so would of course be unfortunate for all the theories that make use of Berkeley's proof of idealism (including apparently Prof. Taylor's own[1]); but even so the illustration gets into difficulties. For if the Berkeleianism which coincides with 'empirical realism' is a 'demonstrable contradiction,' are we to understand that the latter is a 'proved truth'? If so, what becomes of Prof. Taylor's own idealism? If not, what does it profit his point to find that sundry *errors* have practically indistinguishable consequences? Had he not to show that of two such assertions the one may be proved *true and* the other erroneous?

I must conclude therefore that Prof. Taylor has nowhere made out his allegation that of two propositions which are practically, *i.e.* for every purpose, the same, the one may be a useless truth and the other a harmless falsehood. The challenge therefore to our critics (which concluded my last article in N.S., 58, p. 175) to confute Pragmatism and have done with it, by producing an indisputable case of useless knowledge, still stands. Prof. Taylor's 'illustrations,' so far from meeting it, have only exhibited our woeful failure (up to date) to impress on him a clear apprehension of the pragmatic test of truth. And yet Prof. Taylor had distinguished himself by the extent to which he has written about and studied this very matter! Who after this will dare to affirm that the human mind is unbiased by emotion and offers an unobstructed passage to the entry of pure truth?

Prof. Taylor proceeds further to catechise me as to what 'having consequences' may mean (p. 84), and asks: "do you mean *logical* consequences, assertions which are *implied* by the truth in question and ought to be recognised as following from it, whether they happen to have been actually drawn or not? Or do you mean actual *effects* . . . or both these different things at once?"

I have quoted this passage at length because it beautifully exemplifies the false antithesis to which its false abstractions conduct the logic of intellectualism. 'Logical consequences' cannot be separated from psychological effects in the way supposed; they are always first of all psychological effects, and it is only when they are there that their logical value can be estimated. No truth therefore has logical consequences *in abstracto:* they come into being only when some one has psychologically drawn them. By saying that they follow 'logically' we only affirm our belief that all 'reasonable' human minds would consent to draw them; by saying that they existed 'potentially' before we drew them, we

[1] Cp. *Ele. of Met.*, pp. 64-66, where, in spite of his protestations, Prof. Taylor never logically gets off subjective ground.

only antedate conclusions which seem to us so inevitable that we feel we should have drawn them at any time had we had occasion to do so. For all that, we may often observe that reasonings which possess for one mind the highest degree of logical cogency are voted individual fads by the rest.[1] This plainly shows that the feeling of logical necessity is as psychological as any other.

In short, by calling consequences 'logical,' we do not really mean that they could exist without a psychological context. We mean that they are psychological consequences of a peculiar value which it is important to distinguish. 'Logical' processes are primarily psychological, but selected from among the merely psychological, and honoured with a special mark of distinction. So far therefore from being accidental, the psychological consequences are essential to the constitution of 'truth,' and logical consequences would be no consequences at all unless they 'happened to have been actually drawn'. The science of logic so far from being 'independent of,' *i.e.* unconnected with, psychology, differs from it only in the difference of purpose with which it works over the same material.[2]

Prof. Taylor proceeds to find a difficulty in the obvious fact that 'not only truths but also falsehoods have consequences' which should be easily dispelled by this conception of the logical as *a valuable* sort of psychological product. He complains that I afford no guidance on the "all-important point" of "how the consequences of truths as such differ from those of error as such". And then he proceeds to quote a passage which plainly gives my answer, to the effect that the 'true' is what forwards and the 'false' what thwarts a human purpose (primarily logical). Or in other words 'true' and 'false' are the forms of logical value, positive and negative.[3] The answer to Prof. Taylor's question is simply: 'In value'. I cannot put the matter more clearly or concisely.

Of course, this answer is *general*, as befits a general theory of knowledge. What answers in detail are 'good' and 'true' as responses to what human interest is a question for the special methodology of each science, and also for social conventions. And until an actual case is presented, it is impossible to show how precisely certain truths forward certain interests.[4]

[1] In one of his empirical moods Prof. Taylor has himself made some excellent comments on this fact. See his *Problem of Conduct*, pp. 369-371.

[2] Contrast Prof. Taylor's treatment in *Phil. Rev.*, xiv., 3. in 'purging logic of psychological accretions' and asserting that "the notion of an individual thinking mind is absolutely irrelevant" to the nature of truth. How all this is compatible with the very "specific emotion" which he finally finds to be essential to the existence of logical assertion pp. 287-288) is of course the puzzle noted above (pp. 383-4).

[3] Cp. *Humanism*, pp. 54-58 and MIND, N.S., 58, pp. 160-176.

[4] Prof. Taylor's poser about the doctor who risks his practice by brutal veracity fails from ignoring the divergences explained in *Humanism*, pp. 58-60, which arise from the fact that an individual's purpose is not always

As for the phrase "*pro tanto* true" which Prof. Taylor suspects of dishonest 'hedging,' it was simply intended to convey a warning that our first predications of 'truth' are rarely our last, as our proximate are rarely our final ends. 'True' like 'good' is predicated at different levels, and as we proceed from the lower to the higher purposes, a valuation made at a lower level is not of necessity sustained. It is this process which gives rise to the methodological principles, which abound in all the sciences, and may be called 'truths' or 'fictions' according to the standpoint from which they are regarded.

This exhausts the points in Prof. Taylor's article which I can think relevant to the issue, though some have had to be treated more briefly than their importance demands. But I hope I may have succeeded in making it clear that if pragmatist epistemology is more revolutionary, it is also more systematic and adequate, than its humble beginnings in Dr. Peirce's magazine article appeared to portend. And it resembles natural products, and differs from the artificial 'systems' of individual philosophers, also in this that it possesses the capacity of growth.

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socially valuable nor are his interests always harmonious with those of society. The 'good' and the 'true' ἁπλῶς are not always so τινὶ, as Prof. Taylor might have remembered from Aristotle. Usually the social valuations prevail over the individual, and we are conventionally obliged to call 'good' and 'true' what may be 'bad' and 'false' for us. Far more complicated cases, which it is interesting to work out, arise however in connexion with the 'transvaluation' of old values and the establishment of new ones.

WUNDT AND 'PURE SELF-OBSERVATION'.

When a science is advancing with leaps and bounds, the problem of the methods to be employed in that science cannot be regarded as a burning question; but when there are many workers, as in the psychological field, and when the advance of psychology appears still to be a matter of individual opinion, the question of method deserves the gravest and most minute attention. The appearance of the first volume of the translation of Wundt's *Principles of Physiological Psychology* (fifth edition) is, therefore, a fitting occasion for reviewing the problem.

The "subjective" method, Wundt holds, has entirely failed because while "in natural science it is possible, under favourable conditions, to make an accurate observation without recourse to experiment, there is no such possibility in psychology" (p. 4). It is, therefore, not the speculative method, but scientific self-observation—two very different things—which is condemned by Wundt, for, as he says, "accurate observation implies that the object of observation can be held fast by the attention" (p. 5), and that is not possible in self-observation where the contents "are at the opposite pole from permanent objects" (p. 4).

Now it is abstractly possible that Wundt and others have made determined efforts at systematic self-observation and that they have, as a result, come to the conclusion that systematic self-observation is impossible; but it is also abstractly possible that, since "psychological inquiries have, up to the most recent times, been undertaken solely in the interest of philosophy" (p. 2), only the speculative method has been applied, the method *par excellence* of philosophy and philosophers. Accordingly, it is at least abstractly possible that the introspective method, scientifically directed and applied, may prove a method which is eminently useful in psychology.

With the great German thinker, and with all non-introspectionists, I would, after some years of laborious inquiry, plead somewhat as follows.

In all experiment something must be *observed* if that something is to be known. In all scientific work, *observation* is implied. All observation is subject to mental exhaustion and illusion. In all observation, too, especially if not of the simplest kind, there is involved *memory* with all its drawbacks. Now where we have merely to jot down a single figure, mal-observation and mal-recollection have little scope; but in ordinary scientific work, even of an

experimental kind, much is left to accurate observation, the object observed is changing, the attention cannot be fixed for long, and the memory is responsible for much. Yet, with trained scientists, mistakes are scarcely taken account of. Suppose, however, that scientists regarded all observation as hopelessly unreliable (which it is if "conscious contents are at the opposite pole from permanent objects"), then all but the single figure experiment which requires no watchful experimenter could be of any value. Hence ordinary scientific observation and experiment would be discountenanced, and, as an indirect result of the absence of practice, the simplest observations and experiments would become unreliable. Furthermore, all inference and verification would be equally ill performed and, therefore, justly held suspect. Of course, the motions of waves in a storm are most difficult to observe accurately, especially from a small boat at the mercy of those waves; but scientific observation is seldom concerned with such problems. If all nature were as unstable as such waves, there would be no more prospect of any physical science, than of an experimental psychology when "conscious contents are at the opposite pole from permanent objects".

To follow a concrete psychological event—as to follow any event—in its entirety is out of the question, nor, fortunately, has scientific observation anything to do with events in their entirety. Assuming, then, that we may ask of psychologists as much, and no more, as of other scientists, we may go on to inquire whether introspection is practicable or whether the mind is a mad ocean and we inside a small boat in the middle of it, as Wundt contends.

Sir Francis Galton asked a number of persons to observe whether in their thinking they employed imagery. Was it, then, impossible to answer his question because of the furious tossing to and fro of microscopically small ideas? No. Some people definitely stated that no images accompanied their thinking; others that shreds of colourless and indistinct images were observable in their thought; and others still that images which successfully mimicked reality were to be noticed while they were thinking. The records of these observations have never been challenged. Hence we may conclude that images other than words may be recollected and that men differ considerably as to the images which they recall. This is no longer a matter of opinion or of hearsay. It is an established fact, a matter of science. Outlines and colours can be recollected, and this can be shown by 'pure self-observation'.

One need not, however, stop at this point. By the same method of often repeated introspection under varying conditions, one may determine how near to exact reproduction of outlines we may arrive. I may recall the face of a friend, study his recalled features minutely, enter into my notebook all I observe, and compare it with the reality and with former entries. Or I may observe a recalled object which has many and various parts and count and measure off everything, and then again compare it with the original.

Furthermore, the conditions for complete reproduction may thus be discovered, be they nearness in time, association, intensity of experience, interest, disposition, or repetition. Indeed, the outlines may be exhaustively studied until our conclusions on the subject exhaust the inquiry, that is, we can learn how outlines are recalled and we can determine the conditions which produce them. We are at last not only able to predict in detail, but to experimentally repeat everything. What is more, the whole matter may be experimentally studied. We observe a selected object more or less frequently under conditions which we more or less vary, and we note the changes in the image. To say that such observation or experiment is impossible—I am referring to visual outlines—is to assert something for which proof should be forthcoming, especially when there are persons who seriously contend for the possibility, as were those who answered Galton's questions. In any case, the present writer is convinced that no external observation is more easy or reliable than internal observation is in this matter. In internal observation I cannot conceive of not being able to recall the many individuals I know and steadily observing their features, which in some cases are traceable in detail and in others are not discernible at all. In certain instances where there is but the merest fugitive shadow noticeable I cannot perhaps tell the story of the particular image; but in many I can account for all that is material. I learn how superficial observation leads to the fixing of few features; how observation which is only directed to immediate satisfaction has little value for the memory; how through superficial recall of an image or attending to it partially or furtively, it is degraded; I notice how recency and familiarity almost repeat the original experience to a confusing degree; and how time, unchecked by repetition, leads to the gradual disintegration of the image.

Or examine the matter from the experimental point of view. Suppose it is a question of verifying Galton's theory that a general idea is a composite image, constituted in any particular instance, say, of all the rivers or mountains I have seen. First, I thoroughly test my memory. Then I take lines of different lengths, thicknesses and inclinations, and note whether they fuse into a composite image. Having done with single lines, I may experiment with figures, from simple to complex. Suppose, then, I find not a single fact, out of many thousands systematically collected, which supports the theory, and everything to show that images never overlap, shall I have a doubt in rejecting Galton's composite image theory on the ground that "conscious contents are . . . fleeting occurrences, in continual flux and change, . . . at the opposite pole from permanent objects"? Surely, any ordinary scientific solution in physics, physiology or chemistry is no more satisfactory, simple or exact than the results of the method employed above, or is it a fact that all scientific work outside psychology—say, in physiology—is always mathematically de-

monstrated and never otherwise? Is it not rather that such observation as we have spoken of paves the way for mathematical demonstrations?

We have examined the question of recollected visual outlines. The problem of the remembering of colours is disposed of in the same manner. Manifestly, when I decide the query as to the colour of a book by examining the image of it, and when I recall deliberately innumerable coloured objects which are familiar to me, and classify them as regards colour observed in the image, there can be no justifiable doubt that one person at least, myself, sometimes recalls colours. Not only outlines, then, but objects as coloured may be recollected.

Moreover, the inquiry we made as to visual images, may be extended to images referring to the other senses. In this way we may decide as to recollecting olfactory, tactile, taste, and auditory sensations. We may go farther and study percepts and their composition and origin on the one hand, and, on the other, try to find in the sensations those factors which differentiate the sensations. We may examine thus trains of thought, the nature of the memory, of habit, of the emotions and of the will,—that is, the whole of the mind,—and obtain by this method some point of view from which the total of mental processes seems built up of a few elements.

He who is in a towering rage will find it impossible to examine his rage when it is at its height; and he who is untrained and is not quite clear as to what he wishes to observe or who desires to observe events in their entirety, will despair of his task; but a professional psychologist need neither be considered as an untrained beginner nor need we think that everybody is always in a towering rage or desires to observe events in their concreteness. If as yet the psychologist is no more ambitious than his brother physiologist who troubles himself little about time measurements and about making an exact science of his subject, he will find that, relatively to physiology, for instance, the task of the scientific introspectionist is a light one. "Favourable conditions" for observation are as plentiful in psychology as in most other sciences.

Of course if "conscious contents are at the opposite pole from permanent objects; [if] they are processes, fleeting occurrences, in continual flux and change," all direct self-introspection is ruled out of the question, "and under no circumstances can it lay claim to accuracy". Indeed, all verification of hypotheses and experiments is likewise impossible or unreliable, and "experimental" psychology becomes as futile as "subjective" psychology.

No sane man could accuse Wundt of being ill-informed and no man who is himself impartial would denounce the great German psychologist as being governed by blind prejudice. Either, therefore, our account of the steadiness of mental facts is incorrect, or else no one, of any recognised standing, has attempted to show that "pure self-observation" is possible and practicable. When

Wundt, therefore, says that "the subjective method has no success to boast of," a statement scarcely borne out by facts, he can only refer to the *speculative* method which naturally is as fruitless in psychology as it used to be, in its time, barren in the physical sciences. To justify his condemnation of systematic introspection, Wundt would have to show that the subjective method he speaks of was applied, unsuccessfully, in the sober way of close, careful and repeated examination under a variety of conditions; but this he does not attempt to do, and this he could not do since the believers in the "subjective" method are emphatic in dissociating themselves from systematic introspection and on the same grounds as Wundt.

Still, if it could be demonstrated that the experimental, or rather the psycho-physical method, is successful, it would be of small importance whether we do or do not neglect the method of systematic introspection. Wundt says that "the subjective method has no success to boast of; for there is hardly a single question of fact upon which its representatives do not hold radically divergent opinions" (p. 7). What has been the success, then, of the "experimental" method? "Whether and how far," Wundt replies, "the experimental method is in better case, the reader will be able to decide for himself at the conclusion of this work. He must, however, in all justice remember that the application of experiment to mental problems is still only a few decades old" (p. 7). The statement that the application of experiment to mental problems is still only a few decades old, is very true; but youth alone is no proof of success, though it may contain the promise of it. Plainly, believers in the subjective method, speculative or scientific, may retort in Wundt's own words, that the result of the work of innumerable experimenters in almost innumerable laboratories is that "there is hardly a single question of fact upon which its representatives do not hold radically divergent opinions". Wundt himself only refers to his book, not to commonly accepted facts, and hence it is possible, if not probable, that the "experimental" method may keep us in the wilderness, as the "subjective" method is said to be doing. Who knows where the flaw may be in the psycho-physical method? Perhaps the simple facts experimented upon are not simple at all. Perhaps the facts dealt with can, and must, be border-facts which tell us nothing of the interior. Perhaps the mathematical method may only be in place at the close of psychological inquiries and not at the beginning. Finally, perhaps the "experimental" method must go hand in hand with that of systematic introspection on a large scale, and is useless if such introspection is not cultivated or is grossly self-deceptive. Who knows? That we are in a dark wood is certain; but that the experimental method will bring us out into the open and into the blessed sunlight, no one can hold except he walk by faith.

Under these circumstances it is legitimate to plead, without in

any way denying the possibilities of the "experimental" method, that there is another as yet untried method, plausible beyond any other, which men might apply, perchance with success, perchance not—the method of self-examination by means of systematic observation and experiment as sketched above. The idea is not new—Beneke lauded it to the skies, and psychologists—however they may protest that "the endeavour to observe oneself must inevitably introduce changes into the course of mental events, changes which could not have occurred without it, and whose usual consequence is that the very process which was to have been observed disappears from consciousness" (p. 5)—have never failed to resort to it occasionally. The plea, therefore, is that a relatively old method which, to the writer's knowledge, has never been applied systematically—and everything depends on the *systematic* application—should at least receive serious consideration, apart from those many speculative objections which evidently beg the very points which are to be demonstrated.

If the question be now raised why internal observation has not been systematically pursued by psychologists as external observation has been systematically employed in the other sciences, we find our answer in Wundt. He lays it down, perhaps more emphatically than is necessary, that "psychological inquiries have, up to the most recent times, been undertaken solely in the interest of philosophy" (p. 2). If this be so, who can be astonished if the speculative method and not the objective scientific method has been applied until recently to the study of mental facts? And, seeing that Wundt himself is a philosopher, does not this account for his opinion that self-inspection is supposed to be "inevitably exposed to the grossest self-deception," and that the "sole resource" of the subjective method "is an inaccurate inner perception"? (p. 7).

Finally, it is true that a distinguished scholar has at the end of a long and brilliant career condemned root-and-branch the introspective method as applied apart from "experiment," and that able thinkers before him—back to Herbart, Kant and Hume—have expressed themselves not less emphatically in the same vein. At the same time, all these men were philosophers practised in the *speculative* method and confessedly strangers to the scientific method of exhaustive and circumspect observation and experiment. Shall we, in a scientific age, echo this universal condemnation without seriously questioning it first? Who knows from what quarter the truth may come? Perhaps from some despised Nazareth.

GUSTAV SPILLER.

VI.—CRITICAL NOTICES.

Studies in the Philosophy of Religion. By GEORGE GALLOWAY, B.D., formerly Examiner in Philosophy in the University of St. Andrews. Edinburgh and London: Blackwood & Sons, 1904. Pp. 328.

THIS work, reviewed thus late solely by the fault of the present writer, undoubtedly forms one of the most substantial and rewarding contributions to Religious Philosophy which this country has produced in recent years. It does not pretend to cover the whole field, and the author cautions us against supposing that it was his purpose, *more Germanico*, to deal with the subject systematically. Yet we know that essays have stimulating qualities of their own; and while the six essays comprised in the present volume do not amount to a system of *Religionsphilosophie*, they are consistent with one another, and would find their place in a system. The book is uniformly characterised by lucid, massive, competent thinking, and it is unusually well-informed. Mr. Galloway's mind is of the synoptic order, and the broad and exact learning he commands has enabled him to impart to his ultimate conclusions a credibility and impressiveness which do not always belong to the general views of the philosopher. The clear, steady movement of ratiocination by which the argument at each stage is unfolded, and the writer's gift of keeping rigorously, though without pedantry, to the matter in hand, make what he has to say instructive in a very high degree. One improvement in form—a very slight one—I venture to suggest, is that each essay should have prefixed to it a brief synopsis of its contents, as is done in the recent collection entitled *Personal Idealism*.

Mr. Galloway is notably strong on the side of psychology and history; but he is also possessed of a gift for metaphysical thinking, and as a philosopher is perhaps best described as belonging to the school of Lotze. Like his master, he is on his guard at every point against one-sided views. He is not a Utilitarian; but he finds that the rigid exclusion of results from the valuation of conduct is not possible. He concedes that judgments of value play an important part in religious cognition; he denies that theology, as a science, can be reared on this basis. He is not a Hegelian, for he holds that Hegel gave no adequate psychological analysis of the religious consciousness; but neither is he a Voluntarist, for he re-

jects "the gospel which some at present preach, that reason is only the slave of feeling or the hired servant of will". There is a word in season both for the orthodox theologian and the devotee of materialistic naturalism. This strain of sober and judicial impartiality runs through the whole; and if to some it appears to lack certain qualities of philosophical sweep and daring, in the minds of many more, I believe, compensations for this absence of intrepidity will appear in its pre-eminent moderation and knowledge. "Some of the best work in the Philosophy of Religion," we read at one point, "has been done by those who have treated the pure and the practical reason, the intellectual and the value-judgment, as complementary and mutually supporting, and so have endeavoured to rise to a view of God which satisfies the whole man" (p. 34). This is the temper in which Mr. Galloway also contemplates the problem. In the account which follows I shall confine myself, in the main, to bringing the author's chief points together, being disqualified as a critic through substantial and admiring agreement with his general argument.

The standpoint, then, from which the subject is here studied is very much that occupied by a writer like Pfleiderer. We can never know God perfectly, yet we have some knowledge of Him which is true so far as it goes. Such knowledge is partly speculative and partly practical. "The whole inner side of the divine life is beyond our grasp. And when we try to express the Idea of a Being who is beyond space and time, our thought must perforce be figurative" (p. 12). In the first essay these principles are employed in a critical examination of the tendencies of Religious Philosophy from Hegel to the present day. Mr. Galloway finds that for the last seventy years the tide of pure speculation has ebbed steadily, the counter-tendency growing all the while to reduce thought to a quite subordinate place, and to view feeling and will as the properly constitutive elements of the religious mind. However, the movement has not been uniform. Thinkers like the Master of Balliol and Prof. Royce have held unwaveringly to the principles of idealism, with "a real faith in the capacity of reason to deal effectively with the highest problems". To these may now be added the extremely suggestive and uncompromising negations of Mr. McTaggart, with their calm and fascinating assumption of metaphysical common-sense. At one or two points in a later essay Mr. Galloway touches upon the lines of reasoning with which Mr. McTaggart has made us familiar, in a way which indicates his fitness to treat of the subject at greater length. The whole paper is a very informing one, and the criticisms of Rauwenhoff, Höffding, and James strike me as specially good.

The second essay, which handles the mutual relations of the Natural Sciences, Ethics and Religion, abounds in valuable matter. The general thesis argued for is that while Ethics and Religion utterly transcend the scope of mechanical categories, an immanent teleology resides in Nature itself which convicts the purely scientific view of inadequacy. The universe can only be interpreted from

the higher levels of teleological thought. This leads up to some fresh and valid writing on the intrinsic character of moral freedom. There is that in moral action, we are told, which differentiates it qualitatively from mechanical process, while at the same time vetoing its interpretation in terms of spiritual determinism. To say that action is necessarily determined by character is to forget that, "in point of fact, man in his temporal history has never unified his character so completely as to exclude the possibility of an alternative in conduct" (p. 69). Otherwise, it is futile to try to make sense of facts like repentance and moral obligation. This is interesting, as suggestive of a growing company of fully-equipped philosophers who refuse any longer to profess satisfaction with the deterministic substitutes for moral interpretation current twenty years ago, and who are supported in their resolve to be heard by the conviction that, whether from the human or the divine point of view, evil is that which "ought not to exist," but which nevertheless does exist, as being created by the volition of finite beings. Mr. Galloway further pleads, and it is one of the most fruitful ideas of this essay, that not only is moral freedom something that grows, but that it can attain perfection only in a perfect environment. Thereafter he passes,—by way of a searching examination of the idea of self-realisation, in which he discusses ably the relation of the ideal self to the actual,—to the conclusion "that a Supreme Ideal must in some way be real, if the ends of conduct are to be co-ordinated, if partial ideals are to be transcended". On the other hand, this appears to lead to an insoluble antinomy between the moral progress of the self in time, and the timeless and perfect Self which we must postulate if there is to be any true standard of value. Nothing, accordingly, can remove this obstacle to thought but to transcend the moral consciousness as such, so finding in Religion the proper goal and the necessary completion of Ethics. These are ideas which, in a somewhat different form, have received prominence in the writings of Mr. Bradley and Mr. Taylor, with their contention that thought, if it is to be consistent, must finally move *jenseits Gut und Böse;* and it may be said here that Mr. Galloway's treatment of the subject, for inner truth and philosophic justice to the interests concerned, need not shrink from comparison with theirs.

Leaving on one side Essay III., on "Religious Development: Its History and Interpretation," as of less significance from the philosophical point of view, though suggestive and closely packed, let us come to Essay V., in which the book's real centre of gravity is placed. Its title is "The Ultimate Basis and Meaning of Religion". Ontological speculations, we are told at the outside, being difficult to verify, all we can ask in the Philosophy of Religion is "that they give a coherent view of the facts in their broad features, and that, to some extent at least, they impart a satisfying meaning to them" (p. 210). Perhaps it is just because it shares this so modest view of the capacity of human intelligence for ultimate speculation, and accepts from metaphysicians like Mr. Galloway a rather dis-

trustful conception of constructive metaphysics, that the religious mind so frequently hesitates to surrender its beliefs at the challenge of the philosopher. I have never read what seemed to me a really satisfying explanation of the validity of inference; yet inference is paradoxical enough, for on the one hand, there must be an identity between ground and consequent, or the conclusion will contain more than the premisses; on the other hand, in the transition from ground to consequent something new must be gained, or proof there is none. Here is an antinomy, in all conscience, right at the heart of logical thinking; yet very few philosophers have been deterred by it from carrying on protracted and confident argumentation. Similarly, the religious mind is apt to argue, a few antinomies cannot be fatal to it either; they cannot nullify its efforts to reach and hold truth. Again, if it be true, as we read (page 214), that for the philosopher the Supreme Reality is to be found within the world-process rather than without it, while religion is bent rather on personal fellowship with God, as One who has reality over and beyond the experiential process in which He is manifest; then we may not be face to face with an ultimate dualism of mental attitude, but at all events it is natural that the devout mind should occasionally question whether a certain type of metaphysician, usually designated pantheist, always discerns, not to say conserves, the religious interests of life. This quite apart from the fact that no unanimity obtains on the philosophic side as to the speculative truths which ought to be put in place of the rejected conceptions of piety. In passing, I may remark that I find it difficult to decide what for Mr. Galloway is the supreme court of appeal. He tends at one or two points to half-apologise to philosophy for the existence of the theologian; as though theology were a discipline, which, from the intellectually unfortunate circumstances of the case, could hardly expect to attain any high standard of accuracy and rigour in thinking. I cannot see that it is any weakness in theology that it should select its data from history (the Ritschlians, by the way, would not consent to say that their theology was *purely* historical): nor is it, for that matter, correct to distinguish by saying (p. 321) that theology sets out from particular, philosophy from universal, experience. At least the expression is highly ambiguous, for obviously philosophy exercises a selection upon its data no less than the other.

Pursuing, then, the line of inference back from experience to its permanent ground, Mr. Galloway seeks in this admirable essay to formulate a common ground of inner and outer experience. This distinction between "inner" and "outer" has been justified in the preceding paper, which is reprinted from MIND. As to the argument there, suffice it to say that the writer comes to the conclusion that outer experience is the interpretation by self-conscious subjects of the action of reals which thought itself does not create. These trans-subjective reals, again, we ought to conceive after the analogy of the self, their qualities being representations in consciousness of the interaction of spiritual substances. Or as it is

put on page 191 : " The real on which the ideational activity of the subject works in constructing the phenomenal world is, on this view, manifold spiritual substances or causalities ; and the diverse qualities of the world, as given in experience, would be grounded in the various activities of these substances. The basis of the phenomenon termed matter is, on this theory, an inner life which is allied to our own consciousness."

This is a favourite mode of metaphysical idealism at the present hour, and it cannot be reasonably doubted that its claim to overcome a greater number of difficulties than any other theory is very strong. But, besides the obscure problem of the relation of these causal centres, these clots of reality, to the ultimate system or the Absolute, I cannot see as yet that this view is successful in explaining the *appearance* of matter. How, if all reality is at bottom spiritual, should we have even the illusion of that which is non-spiritual? At all events, if it is valid to argue (p. 65) that you cannot explain the illusion of activity and spontaneity without implicitly conceding that such activity and spontaneity in the Self are real, is it quite incompetent to turn the same argument in another direction? Again, the very language in which we are compelled to state the theory seems to create difficulties for it. Grant that the *inner* nature of things is spiritual ; is it then involved that they have an *outer* nature which is not? Just as Mr. Bradlaugh could always vote once oftener in the House of Commons than his vote could be disallowed, because he could vote on the motion to disallow his vote ; so, protest as often as we may that the *basis* of the phenomenon called matter is an analogue of our own consciousness, it still appears to be implied that this analogue is somehow clothed upon with a non-spiritual vesture or external manifestation, the illusion of matter being thus produced. How do spiritual substances come to cast this " material " shadow? Does not an impenetrable surd remain to the end? Not so much for pure idealism, perhaps ; but surely for a thinker who holds, as Mr. Galloway does, that reals exist and are active trans-subjectively. These objections are not sufficient to deter us from acceptance of a theory of this Lotzian type, but they are points on which it needs to come to terms somehow with its critics.

The distinction between inner and outer experience being thus vindicated, the writer proceeds with his argument for a World-ground which not only forms the principle of existence and unity for the spiritual substances aforesaid, but is in harmony " with the implications of inner experience, with the realm of self-conciousness and those personal aspirations and ethical values which form an essential aspect of the self-conscious life ". The thought moves steadily past Leibnitzian and Lotzian positions, rejecting them successively, as partially true, but ultimately unsatisfying, conclusions. Prof. Royce's impeachment of realism, as committed to the assertion of individual reals, which are *per se* eternally complete and self-sufficing, is vigorously repudiated ; for no principle of being

can be accepted which does not both connect the various individual centres of experience and also allow for their genuine individuality. The type of unity sought for is finally discovered in the idea of soul. In its simplest forms life involves a central activity, and this force which unites and dominates all the vital elements we may name, provisionally, Will. Analogically the question may then be put: "Is it possible that the principle which obtains in the microcosm has its counterpart in the macrocosm? May not a supreme Will be the ground of all interactions between spiritual substances?" Mr. Galloway answers the question in the affirmative, so reaching the primary and formal determination of the principle he seeks. Thereafter it is further qualified as Self-conscious Will and the Will of a complete or perfect Personality. I should be inclined to characterise the pages in which this is done as the most powerful in the book. Important steps in the progress of the argument are the proof that Will *per se* cannot evolve self-consciousness (this against Hartmann), and that a self-conscious World-ground cannot be the purely immanent unity of all individual selves (in opposition to Mr. McTaggart). And perhaps the most significant words in the volume are those to be found on page 255: "It will be a gain if recent discussions have made it clear that the philosophic Absolute and the religious idea of God cannot, as they stand, be made to coincide. If the notion of the Absolute is right, our view of religion cannot hold good: if the claim of religion is valid, the idea of the Absolute must be revised." I should surmise that in his reasoning for a Supreme Self who is the ground of all that is, yet is not the whole of experience, Mr. Galloway would find himself in close, though independent, sympathy with the positions of Dr. Rashdall. A philosophically-minded theologian, however, might say that the proper corollary of his statement that there must be an element of difference in God, a not-self or other which in no way impedes the activity of the self, is some form of the doctrine of the Trinity; at all events if we are not to descend to the level of sub-personal categories in construing the Divine Nature.

I need not follow this excellent chapter in detail, but two points may be noted: first, the assertion that if we are to predicate ethical qualities of the Deity it cannot be on grounds of an intellectual kind, and must be in virtue of a supreme judgment of worth; secondly, the importance attached to the sense of dependence, of incompleteness and need, in the evolution of religion. Discussion may doubtless be also excited in certain quarters by his statement (p. 282) that "in the higher development of religion the transcendent aspect comes to clear consciousness". But there is a wholesome absence of modernity in Mr. Galloway's refusal thus to make religion (or philosophy, for that matter) geo-centric, or to negate and reverse, in the speculative sphere, the Copernican expansion of the world of science. I take leave of this work, the value of which is quite out of proportion to its comparative brevity, with

deep respect and gratitude. I do so, however, with a lingering doubt as to the precise philosophical principles upon which the writer bases his Theism. He speaks many weighty words on behalf of the claim of Reason to say the last word, and appears at times to regard himself as a loyal intellectualist. But many will charge him with separating an autonomous Faith from Reason, and making the gulf between them all but impassable; and for myself, I should say that it is in an ethical teleology, like Kant's, that he finally casts anchor.

H. R. MACKINTOSH.

The Origin and Development of the Moral Ideas. By EDWARD WESTERMARCK, Ph.D. Vol. I. London: Macmillan & Co., 1906. Pp. xxi, 716.

DR. WESTERMARCK'S work fills me with profound admiration as one who has long groped about in the same field of research and almost lost the hope of reducing the facts to order. There is no book in any language that deals concretely with the evolution of morality on so grand a scale or in so authoritative a way. I had therefore far rather spend my time on a digest than on a critical notice; and am fully aware of the futility of offering a criticism made ere the digest—a matter perhaps of months—is complete. As it is, having thus in general terms acknowledged my sense of the immense importance of the treatise as a whole, I shall confine myself to bringing forward a few objections, I hope not captious, to certain aspects of what might be called its philosophic background. Such objections should be raised, if anywhere, in MIND. Even if well grounded, however, they are not serious enough to detract perceptibly from the impressiveness of this rich and crowded canvas. In what follows I shall concern myself solely with the first half of the book, wherein first principles are set forth. The second half, which studies in detail the more important modes of human conduct as far as regards one group thereof (five other groups remaining over to be investigated in a second volume), I may have an opportunity of discussing elsewhere.

Dr. Westermarck at the very outset defines his position as an ethical philosopher. His is an "ethical subjectivism". The objectivity of moral judgments is a chimera. There are no general moral truths. Nothing can be said to be truly right or wrong. In the last resort our moral standard is a personal one. "My moral judgments are my own judgments; they spring from my own moral consciousness; they judge of the conduct of other men not from their point of view, but from mine, not with primary reference to their opinions about right and wrong, but with reference to my own." Why do I pronounce these judgments? Because I am what I am. "Our moral consciousness belongs to our mental constitution, which we cannot change as we please. We approve

and we disapprove because we cannot do otherwise. Can we help feeling pain when the fire burns us? Can we help sympathising with our friends?" Finally, though I cannot help judging in my way, other men cannot help thinking it positively wrong of me not to judge in their way. "Although we hold it to be wrong of a person to act against his conscience, we may at the same time blame him for having such a conscience as he has."

Now with a great deal of this I find myself in sympathy. Nevertheless, I am disposed to criticise (*a*) the justification or proof Dr. Westermarck offers of his thesis; (*b*) the conclusion he would draw therefrom as to the function and method of an ethics; (*c*) its relation to his actual procedure.

(*a*) Dr. Westermarck entitles his first chapter 'The Emotional Origin of Moral Judgments'. Further, he adduces what are clearly considerations of origin to account for the appearance of objectivity attaching to such judgments. Society is at the back of them; whence the uniformity and, again, the authority they tend to display. On the other hand, we read: "To name an act good or bad ultimately implies that it is apt to give rise to an emotion of approval or disapproval in him who pronounces the judgment". But what is the relation of ultimate implication to origin? At all events they cannot be crudely identified. Nor can I suppose that Dr. Westermarck intends to do this. Whilst some of his arguments refer to history, others appear to rest on analysis. But if one man's analysis of his moral judgments yields him objectivity, and there be no flaw in the actual logic of the analysis, how is Dr. Westermarck, on his own principles, going to upset him simply by analysing his own moral experience and finding there only the echo of the voice of society or what not? I do not see how a subjectivism can profess to reach "ultimate implications" at all. That way lies absolutism. Nor again can it afford to disregard the analysis of personal experience and construct an evolutionary history of man *ab extra*. That way lies a would-be objective naturalism. A subjectivism, it seems to me, must abandon all claim to be dogmatic in matters of general theory, and content itself with setting probability against probability to the end of time.

(*b*) Moral principles, says Dr. Westermarck, are inaccessible to demonstration because, owing to their very nature, they can never be true. "If the word 'Ethics,' then, is to be used as the name for a science, the object of that science can only be to study the moral consciousness as a fact." Well, all depends on what we mean by "fact". Now it is a fact that at this present moment I am anxious to criticise Dr. Westermarck fairly. But is it the purpose of Ethics merely to register such interesting bits of biography, or at most to generalise therefrom the average moral disposition of the twentieth century reviewer? In this case Ethics would stop short at description. But I suspect Dr. Westermarck of wishing to extend its function to explanation. He would show, if he could,

that I being an average reviewer *must* aim at impartiality. This I take to be the import of the passage above quoted, where he says: "We approve and we disapprove because we cannot do otherwise". Now this is certainly not plain fact as revealed to one and all of us by introspective analysis. Ethics has somehow shaken off its essential subjectivism, or else has gone outside itself for its principle of explanation. The choice lay between an appeal to the experience of the moral subject, and frank recourse to the naturalistic hypothesis. Dr. Westermarck seems to hold to subjectivism just so long as to make nonsense of our ethical experience. Then, in order to make sense of it again, a deterministic naturalism has to be given a more or less free hand.

(*c*) Such a deterministic tendency manifests itself, to my mind, in the interesting discussion that immediately follows on the nature of the moral emotions. These are held to form a species within a wider class termed the "retributive emotions". Thus moral approval is a form of "retributive kindly emotion," whilst moral disapproval is one kind of resentment. What, then, is resentment or revenge in general? Dr. Steinmetz in his *Entwicklung der Strafe* maintains that revenge, inasmuch as its prime function is to restore one's injured "self-feeling," is originally "undirected" save *per accidens* until experience begets a utilitarianism which perceives in the punishment of the author of the wrong a means of preventing its occurrence. Dr. Westermarck opposes to this doctrine the notion of a revenge that is *per se* "directed," that is, essentially involves an aggressive attitude of mind towards an assumed cause of pain. Now I am here not so much concerned with his conclusion as with his method of establishing it. *More suo* he makes biology his starting-ground, but in a short time has passed over into psychology, as if the change of standpoint involved were next to none. "Resentment, like protective reflex action, out of what it has gradually developed, is a means of protection for the animal. Its intrinsic object is to remove a cause of pain, or, what is the same, a cause of danger. . . . The need for protection thus lies at the foundation of resentment in all its forms." Note here the ambiguity of "object," "cause," and "need". Surely the animal does not say to itself, "This causes my pain; I need protection; with this object, then, I let loose my wrath". It is the biologist who says this for the animal. But the question before us is precisely when, how, and why man, or some ancestor of man, first came to say this to and for himself. Simply to assume, as Dr. Westermarck seems to do, that with the growth of intelligence what was before implicit became explicit is to make intelligence a mere fly on the wheel. Not but that a few examples are offered of revenge on the part of animals where conscious direction is claimed. But will these bear close inspection? I cannot help smiling over Palgrave's camel which "bode its time," and finally "looked deliberately round in every direction to assure itself that no one was within sight" before it brained the

boy. Of the Versailles elephant, we actually read that, "as if it knew that the painter was the cause of this teasing impertinence," it squirted water over his drawing. Clearly the narrator supposes it did not know that the painter has set on his servant to worry it. Be these things as they may, however, at this level of experience our clues are at best slight. On the other hand, when we come to deal with the facts about savages—in whose case we may anthropomorphise with relative assurance—we may certainly expect to be given the explicit logic of this or that act, and not such a logic as, by a metaphor, may be said to be implicit in some biological trend discerned by a speculative bystander behind the act. But when Dr. Westermarck lays it down that human resentment, moral or otherwise, is "determined by the answer given to the question, What is the cause of the pain?" I should say that either he is guilty of this confusion between actual and merely potential, or at all events he does not show by the evidence he cites that the savage always puts such a question to himself, though no doubt he often does. Expanding intelligence, I take it, has by no means followed strictly along the lines to which, according to the naturalistic hypothesis, it is foredoomed by biological necessity, but has a wayward trick of shooting away from the path at any angle and yet somehow working round to a point directly ahead of steady-going 'nature'. To particularise, I venture to suggest (though I have not the space in which to substantiate the assertion) that Dr. Westermarck makes rather too little of what for want of a better word we are wont to term savage "religion'—that mass of tortuous superstitions apparently so completely out of touch with the actualities of life, yet capable in the long run of creating in chief part that mental atmosphere which, for better or worse, we civilised beings still breathe. I find that Dr. Westermarck's savage is rather too much of a utilitarian; whose utilitarianism is, as far as the proofs go, not only conscious or half-conscious, but sometimes altogether non-conscious, that is, for the empirical psychologist, non-existent.

On the whole, however, it must be admitted that Dr. Westermarck's more or less deterministic handling of human conduct appears to yield results approximately correct for a great deal of human history, and more especially for its earlier stages. For example, his brilliant pages on Punishment show force of reasoning to be almost powerless to determine practice as compared with the purblind coercion exercised by that mass of inveterate passions and prejudices, the public conscience. Indeed, even to this hour the law reflects the workings of emotion rather than of thought. We punish the foiled attempt less severely than the accomplished crime, simply because the indignation it normally evokes is less. In vain theory protests that the criminal intention was in both cases the same. The feeling of the multitude, misnamed our "natural sense of justice," carries the day. Dr. Westermarck, however, with his strong grasp on fact, is forward to admit that

"want of due reflexion" is responsible for this barbarous state of things, thus implying that somehow we can transcend the plane of fatal dependence on the feeling given. But how, if not by an intellectual, that is at the same time a moral, effort? And such effort, so far at least as we know or are likely to know, is free rather than caused. The ordinary sociology with its cheap determinism borrowed uncritically from the physical sciences may set forth to explain the higher life purely from without, and our withers are unwrung. But we expect an explicit recognition of freedom as at least one 'moment' in human history from an "ethical subjectivism" worthy of the name.

Finally, I would insist that the determinism I am objecting to is one that displays itself at the scientific level, or, in other words, in the organising and explaining of the actual facts of human history. With such a purely metaphysical determinism as Dr. Westermarck professes in the closing chapter of his first part I hardly feel called upon to quarrel here. I cannot myself reconcile an ethical subjectivism with a metaphysical objectivism, but others apparently are able to do so. Dr. Westermarck argues that it is "absolutely meaningless" to regard our actions and selves as anything but "in every respect a product of causes"—a position he identifies with determinism—but maintains that it is quite another, and a wrong, thing to suppose us to be wholly conditioned from without, and not partly from within as well. This wrong view he terms fatalism. Well, my point is that his handling of the facts tends to be, in his terminology, fatalistic. 'Cause' at the level of a rationalistic metaphysic may mean almost anything—free cause for one thing. But at the level of physical science it means something quite definite, and is not, I think, to be transferred in the same sense to social science without grave danger.

R. R. MARETT.

Criminal Responsibility. By CHARLES MERCIER, M.B., F.R.C.P., F.R.C.S. Clarendon Press, 1905. Pp. 232. Price 7s. 6d.

LIKE previous works by Dr. Mercier this book is notable as a piece of vigorous and independent thinking on a difficult topic, well and clearly expressed. The principal aim of the book is to answer the question, "Whom ought we to punish?" The author therefore sets aside the legal definition of responsibility, substitutes for it the definition, "Rightly liable to punishment," and goes on to inquire into the meaning of 'rightly' and of 'punishment'. He quickly reaches the conclusion that "By *rightly* liable to punishment I mean, then, liable to punishment on grounds that appear fair and just to the ordinary man," and proceeds to inquire "what are in fact the aims intended by punishment, and what they ought to be". He argues that retribution is and always has been the main end of punishment and draws the conclusion that "for the practical

purposes of daily life, we must continue to regard punishment as primarily retributive, secondarily deterrent, and tertiarily, and in much lower degree, reformatory". The author thus turns aside from the inquiry into what ought to be the aim of punishment and is content to conclude that what "is" "must be," on the ground that it is necessary to take human nature as it is and as it is likely to be for the next few generations.

This surely is a very unsatisfactory opening to an inquiry into "Whom ought we to punish?" The doctrine that whatever is is right may be defensible, but one hardly expects to find it adopted by the inquirer into what ought to be. To say that human nature does not change rapidly is true but profoundly misleading. Its innate dispositions may change but very slowly, yet the opinion and feeling of the mass of men in regard to any topic may undergo radical changes and improvements in a very brief period, if the changes are urged with sufficient force and skill by those who enjoy prestige. All improvement of public opinion comes from the select few, and it is for writers upon such topics as punishment and criminal responsibility to improve public opinion, and not to accept it as it is. Therefore, even if the author had made good his contention that the main aim of punishment is retribution, he would not be justified in concluding either that it ought to be so or that it must be so. But this contention he has not made good. He supports it in several fallacious deductive arguments by which he seeks to refute Bentham's doctrine that punishment should aim primarily at determent. If determent, he says, is the primary aim, "the severest punishment should be visited upon those crimes which every one is under temptation to commit," but this is not the usual practice, therefore Bentham is wrong. But surely, according to Bentham's view, the punishment assigned to any offence should be severe, not in proportion to the number of people liable to temptation, but in proportion to the intensity of the temptation for those who experience it. Very many men are liable to the temptation to ride in first-class railway carriages with third-class tickets or to ride bicycles on footpaths, but a penalty of very moderate severity suffices to enable most of them to resist these temptations. Why, therefore, on Bentham's principles, make them capital offences? Equally fallacious is the argument from the case of Jack the Ripper and from the secrecy of punishment of certain unnatural offences. Surely these latter cases afford the clearest examples of punishment primarily deterrent. If we include with these the crimes of infanticide and abortion, we have a class of severely punished crimes which, in many cases certainly, inflict no pain on others. How then can this class of crimes be brought into conformity with the author's contention that "a person is held responsible when the enlightened public opinion of his age and country demands that he shall be made to suffer in return for pain that he has inflicted"? On the other hand if retribution, the desire to inflict pain on those who have pained others, is the main

motive of the law, why do we not punish severely the classes of offence which probably cause more acute suffering than any other, namely seduction followed by desertion and those offences which lead to the divorce court? The author would have us accept our instinctive desire to avenge injury as the ultimate court of appeal (p. 17). The proof that an act should be punished is that it "raises in you and me, and Tom, and Dick, and Harry, the desire that Bill should suffer pain". "When I declare that A is responsible for the murder of B . . . I mean . . . that in my own mind there is a feeling of uneasiness which demands relief, and cannot be relieved except by the infliction of pain upon A." How then, when A by accident steps painfully on my toe? Am I right in relieving my uneasiness, in giving vent to my instinctive anger by striking him violently? The truth is, of course, that the task of practical ethics is to refine conduct by the deliberate self-conscious control of such instinctive emotional reactions and desires; and to set them up as the ultimate court of appeal is to reject the results of social evolution and to go back to the level of the brutes. For even in savage communities punishment is commonly based on higher grounds than the merely retributive, and aims largely at determent from socially inexpedient conduct; as when an unmarried girl, becoming pregnant, is punished by being isolated until the child is born. According to the author's doctrine no punishable offender should be an object of pity, for pity and desire for retribution are incompatible states of feeling in regard to any one person. Yet the modern tendency of society is to pity the criminal at the same time that it demands strict punishment. Perhaps the case for retribution breaks down most completely in the case of the punishment of the child by the loving parent whose heart is wrung with pity and sympathetic suffering while he punishes; and curiously enough the author fully admits on a later page (p. 63) the wrongfulness of retributive punishment in this particular case.

In spite of this unsatisfactory opening the rest of the book constitutes an important contribution to the subject, especially to the problem of the responsibility of persons of abnormal or diseased constitution. The second chapter arrives at a satisfactory definition of voluntary action, by way of an acute discussion and emendation of the definition given by Sir James Stephen. It runs, "a voluntary act is movement, or arrest or suppression of movement, of the body, directed to an aim or end, and accompanied or preceded by the will to make that movement, or arrest or suppression of movement". The author might with advantage have gone on to distinguish between the voluntary act so defined and the deed, that change in the external world which is effected by the act. For the two things are by no means identical. Many actions fail to accomplish the deed intended. If I put out my hand to help a friend over a stile and, slipping, bring us both heavily to the ground the act is good because the motive and intention of it were good. But the deed is bad. Or again, a father thrashes his son for

bullying his little brother, in the hope of improving his character. The act is good because the motive is good, but whether or no the deed is good depends on whether it produces the effect desired. If the boy is merely hardened in his vicious tendency the deed was ill-judged and so far bad.

This chapter is marred by the author's rejection of the important distinction between intention and motive, he maintaining that the motive is merely a more remote intention. Though the distinction is commonly not clearly conceived, yet it is valid and important, as in fact the author explicitly admits in a later chapter (p. 139) when he describes actions intended but not motived. Surely the distinction is that motive refers always to some change to be produced in the mind of self or other, while intention refers only to the physical changes by means of which these changes are to be effected. In the case of the father preparing to punish his child, the intention is to beat him, the motive is to make him repent; or to take the illustration chosen by the author—I prepare to drive through Ealing to Oxford. He says my intention is to drive through Ealing, my motive is to reach Oxford. Surely my intention is to reach Oxford and my motive is the enjoyment of the sights or the society I shall find there. It is not until we recognise clearly both these distinctions, that between act and deed, and that between intention and motive, that moral judgments can be satisfactorily passed. We have to pass judgment not merely on motive, on intention, on will, but upon the accomplished deed. The motive must be good, the deed intended must be well calculated to satisfy the motive, the action must be efficiently directed to the accomplishment of the intended deed, and the will must be strong enough to carry through the action, or, in short, in distributing praise or blame we ought to, as in practice we usually do, take into consideration efficiency in realising ends as well as the quality of the ends themselves. In chapter iii. wrong-doing is defined as the doing harm to another intentionally. And then the author finds himself compelled to recognise the importance of the distinction between motive and intention which in the previous chapter he has rejected, for he rightly admits that the infliction of harm intentionally from a good motive does not necessarily incur responsibility. The definition must therefore be completed by adding to it the words—from motives which are not good.

In chapter iv. the nature of insanity is sketched in clear and firm outlines. The most important contention is that insanity is never a partial disease, that we must assume that in all cases "the whole man is a changed being," that "his personality is altered". The symptoms are disorders of conduct, of bodily function and of mind. Disorder of each class is present in every case of insanity, but in some cases disorders of one of these classes, in others disorders of another class are the most prominent symptoms. Disorders of conduct are the most important symptoms and "it is the elaborate acts that are affected first and most, that are lost

earliest in the malady and are latest to be recovered," while defect of the higher forms of conduct is often accompanied by excessive activity in the lower forms of conduct. Chapters v. and vi. treat of disorders of mind. Here the most important contention is that delusion is by no means necessarily present in insanity, that it is not the only symptom which should exempt the insane from responsibility, that when it is present it is never an isolated disorder, but is "merely the superficial indication of a deep-seated and widespread disorder," and that, therefore, the practice, long prevalent, of exempting from responsibility for an act only when it can be clearly shown to arise out of a delusion, was based upon a misunderstanding of the nature of insanity. It is then shown that, quite apart from delusion, crimes may be committed through disorders of the will of two main classes; first, obsessions in which cases the patient "desires, with well-nigh irresistible urgency, to do the act, but does not desire, nay recoils with disgust or with horror from the consequences of the act". The act is intended but is wholly without or against motives. Whether the word desire can properly be applied to the description of the state of mind of such patients as they contemplate the act seems open to question. Can a man simultaneously desire and loathe an object? Ought not the term desire to refer only to what the author speaks of as the consequences of the act? Cases of the second class are those in which the normal emotions and desires are exaggerated in intensity so that they escape from a self-control of merely normal strength. These are classed as cases of moral insanity. It is argued that these states also should be held to diminish in some degree the responsibility of the patient. It is, perhaps, to such cases that the author's doctrine of the retributive nature of punishment can be most plausibly applied. In this connexion a nice problem for the moralist and for Dr. Mercier suggests itself. Assuming that, as seems probable, the crimes for which negroes in the United States of America are commonly lynched arise from an excessive violence of the instinctive desire in the black race, should the criminal be less or more severely punished than the white man who commits a similar crime?

Chapter viii. sums up on the question of responsibility. To incur responsibility by a harmful act, the actor must *will* the act, intend the harm, and desire primarily his own gratification; the act must be unprovoked, and the actor must know and appreciate the circumstances in which the act is done. If we accept the author's retributive doctrine of punishment we must also accept this definition of the conditions of responsibility. But the acceptance of the third provision would involve the exemption from punishment of all political crimes committed with the desire to improve the lot of a people at the risk of the actor's life or liberty. If the provision is to be interpreted, as it seems to be by the author, to mean merely that absence of motive implies insanity, it is of course perfectly sound.

In chapter viii. the famous answers of the judges returned by them to the House of Lords in 1843 are submitted to a searching criticism in the light of the foregoing discussions. The author concludes that in spite of the ambiguity of these answers, the administration of the law is satisfactory. As regards the perennial dispute between the lawyers and the physicians, the author takes up a sound midway position and does not, like so many physicians, hold it to be the sole duty of the medical witness to prove insanity and to secure to the offender immunity from punishment.

W. McDougall.

Ueber die Erfahrungsgrundlagen unseres Wissens. By Dr. A. Meinong, o. ö. Professor an der Universität Graz. Abhandlungen zur Didaktik und Philosophie der Naturwissenschaft. Band i., Heft 6. Berlin, 1906. Pp. 113.

This book, though stated in the preface to be addressed rather to men of science than to philosophers, is full of discussions by which philosophical readers are likely to profit, and is by no means free from philosophical difficulties. Its object is to consider when and how far we can rely upon what appear to be perceptions, whether of physical or of psychical existents. The author keeps as near to a common-sense view of the world as he can, departing from it only when he is compelled by some quite irrefutable argument. On the whole, reality is to be congratulated on passing its examination so creditably; for the net result is that, though things are usually a little different from what they seem to be, they are seldom very different. In this conclusion common sense will readily acquiesce, though many subtleties are traversed in reaching it.

The introduction explains the difference between the *à priori* and the empirical (as here used) to be that the former does not assert existence, and is necessary. Both are to apply only to judgments, not to presentations; thus "red differs from green" is *à priori*, although the presentations of red and green are derived through the senses. Only what is not *à priori* is based on experience.

The first section is devoted to defining *perception*, on which all derivative empirical knowledge depends. A perception is always a *judgment*, not a presentation, for in perceiving we are convinced that the object perceived *exists*. Moreover, if perception were not a judgment, it could not be a means of obtaining knowledge, which it is universally admitted to be. A judgment such as "the tree is green" is not a perception, but a result of analysing a perception: every perception is an existential judgment, not one attributing a quality to a thing. The objects of perception are primarily things, not qualities, and things are not mere complexes of qualities. (The notion of *thing*, which becomes very prominent

in section iv., seems to me insufficiently explained; at any rate I have failed to grasp what is meant by it.) A judgment of the sort considered is not to be called a perception unless it is true, *i.e.*, unless the object exists. Now, if we are to have any reason for believing in our judgments rather than disbelieving, two things are necessary: (1) that there should be a kind of judgments in whose nature it lies to be true; (2) that by means of judgments of this kind we should be able to recognise when judgments are of this kind. These two conditions are more or less fulfilled by *self-evident* judgments. It is self-evident that a self-evident judgment cannot be false, which is the first requirement; but it is not always self-evident whether a judgment is self-evident or not, so that the second requirement is only partially fulfilled. (May it not be doubted whether the first is fulfilled, if *self-evident* is taken in a purely psychological sense? And if it is not, there is danger of tautology.) If perception is to be knowledge, it must be self-evident knowledge. Hence we reach the conclusion (pp. 35-36): A perception is "an immediately evident affirmative judgment of existence concerning a present thing, based on a perceptive presentation (*Wahrnehmungsvorstellung*) (or a suitable substitute for one)". Here a "perceptive presentation" is a presentation whose object is judged to exist in a perception, or in any judgment which is psychologically like a perception, *i.e.*, like, except at most as regards its truth or its self-evidence.

The second section introduces the word *aspection* (*Aspekt*) for what is just like a perception except at most as regards truth and self-evidence. Thus the question of the "trustworthiness of perception" becomes the question as to when and how far aspections are perceptions, since perceptions have been defined as true. The answer to this generally depends upon whether the object exists. Thus relations cannot be perceived, because they cannot exist; colours might exist, but there are reasons for doubting whether they do exist, and therefore whether aspections having colours as objects are perceptions. The usual reasons for doubting the existence of both primary and secondary qualities are reviewed, and the provisional conclusion is reached that it is doubtful whether there is such a thing as external perception.

The third section, on internal perception, decides that in this case there can be no doubt that some aspections are perceptions, though here also observation is not infallible. When we hear sounds or see sights we can be quite certain that we are hearing or seeing them. A man who has a toothache is quite sure that he has it. (Prof. Meinong denies self-evidence to hallucinations, and would, I suppose, exclude hysterical pains on this ground. But if self-evidence is defined without explicitly including truth, it is hard to see any psychological justification for denying it in these cases.) An element of uncertainty is introduced, even with internal aspections, by the fact that they are never quite simultaneous with their objects. That they are not *always* simultaneous

appears from the apprehension of processes. When a melody is apprehended, for example, we must be hearing all the notes which compose it, yet some at least of them are already past. In fact, simultaneity is merely a limit, which may be realised when the aspection begins; but every aspection lasts for more than an instant, and therefore must be subsequent to its object except, at best, at the instant when it begins. An aspection is not to be called a perception unless there is such an instant of simultaneity[1] (p. 68); and as the interval of time increases, an aspection becomes less trustworthy. It is distinguished from memory by the fact that in memory the object is judged to be past, while in an aspection it is throughout judged to be present. (It is difficult to reconcile this with the instance of the melody, where the earlier notes must be judged as past if the melody is to be apprehended.) Judgments of memory are evident, but not evidently certain: they are *evident presumptions* (*Vermuthungen*)—a rather difficult notion, which ought to be justified at greater length.

The third section contains a very intricate and difficult theory as to internal perceptions, of which the following is an outline: A presentation of red requires a certain content, but the occurrence of this content is not yet the apprehension of the object, which requires an *act*, over and above the passive presentation. If now internal perception possesses itself of the content, it does not do so by a new content: the mere experiencing of the content suffices, together with an act which is different from that by which the red was apprehended. These two acts are called respectively *Auswärtswendung* and *Einwärtswendung* (p. 58). This theory is regarded by Prof. Meinong as an essential part of his argument. It is forced on him by the difficulty of apprehending contents as opposed to their objects.

The fourth section returns to external perception, and endeavours to rehabilitate it as far as possible. It is first pointed out that, if external perception is wholly rejected, all knowledge of the external world becomes impossible. There is a summary criticism of various forms of idealism—too summary, except for those who already accept Prof. Meinong's conclusions. There is also a good criticism of the view that external objects are inferred as the causes of sensations. It is pointed out that, even if the objects whose existence is to be thus inferred are to be found in the chain of causes, there are other nearer causes, as well as more remote ones, and no reason can be given for stopping at one particular point. Thus the external world is only knowable if the senses are more or less trustworthy.

Although the plain man can be induced to admit that the sensible qualities of things are subjective, he can hardly be got to admit that the things do not exist at all. In this Prof. Meinong

[1] Yet, in section iv., Prof. Meinong admits external perception, which, if physical science is to be trusted, can never be quite simultaneous with its object.

supports him: he holds that things, as opposed to their qualities, are really perceived. But even the qualities cannot be wholly subjective, or how should we distinguish a piece of chalk from an inkpot? Here, in addition to "evident presumptions," a notion of inexactitude is called in aid (p. 96): it is contended that one content may apprehend several different objects, though inexactly. Thus it becomes possible that the object of an aspection of colour (say) really is a quality of the thing, but that the same content might have as object a different quality of a thing. Thus not only things, but qualities, will be more or less perceived: in such cases of inexactitude, we may speak of *half*-perceptions. There are then two objects, one phenomenal and one noumenal; "naïve realism" takes the former for the latter (p. 98). It seems to be held—though this is not clearly said—that by means of this notion of inexactitude we can maintain, *e.g.*, that things do really have colours, but not exactly the colours they seem to have. It is argued that half-perceptions in general give sufficient data for judgments of diversity or number; and on this basis we can account for the supposed greater objectivity of the primary qualities. Some phenomena are better evidence than others as to the absolute qualities of things: science is not concerned only with phenomena, and can hope to approximate to noumena by diminishing the inexactitude of external aspections.

It is a pity that the last section is not more explicit, and does not meet in detail the usual arguments, more or less sanctioned in section ii., against external perception. Moreover, the notion of inexactitude put forward is difficult to accept. It would seem as though content and object were connected by a necessary relation of a kind which excludes the possibility of different objects for one content. The natural view of inexactitude is, surely, that the object differs more or less from the object which really exists, not that the content is equally appropriate to several objects. Apart from this rather difficult point, the book as a whole is a valuable contribution to a difficult subject, although it is, perhaps, a trifle too optimistic in its conclusions.

B. RUSSELL.

Platons Philosophische Entwickelung. Von HANS RAEDER. Leipzig: Teubner, 1905. Pp. 435. M. 8.

IN 1902 the Royal Danish Society of Sciences proposed as the subject for a philosophical prize essay "an investigation of the position which the most important dialogues occupy, both philosophically and chronologically, among Plato's writings". The results hitherto obtained were to be collected and arranged, and, if possible, fresh results were to be reached on this basis. The present volume is the result, and has been duly 'crowned'. The

author tells us that he did not aim in the first place at new and independent results, but rather at bringing out what seemed to be of lasting value in the mass of existing Platonic literature, and he has performed this part of his task admirably. I know of no other book from which the student can get so clear and accurate an idea of the history and present state of the "Platonic question," and it would be well if we could be sure that every one who ventures to write about Plato, or Greek philosophy generally, knew first at least what is contained in this volume. Not that Raeder has solved the Platonic question or anything like it. He has simply taken stock of all that has been done (and undone) for its solution from Schleiermacher to the present day,[1] and made a few suggestions of his own. That, however, is a very useful piece of work.

In the account which is given of the Platonic question nothing comes out in a more striking way than the fundamental importance of Campbell's edition of the *Sophist* and *Politicus* (1867). Though neglected for almost a quarter of a century after its publication, it is now seen to be the true starting-point of all fruitful Platonic study. It is so with regard to the question of authenticity. The higher criticism of Plato has had an instructive history, which may be commended to theologians as a salutary warning. Raeder shows us how, starting from some more or less arbitrary conception of what was or was not Platonic, critics were led to reject dialogue after dialogue, till in 1866 Schaarschmidt left only nine, and those nine included the *Laws*, which Ast, and at one time Zeller, condemned as spurious. It was Campbell who made an end of all this by his treatment of the *Sophist*. It was seen that the higher criticism was worthless without the lower, and that it must be based on a sound exegesis. The authenticity of one dialogue after another was triumphantly vindicated, and now no one doubts the genuineness of any really important work.[2] It was also Campbell who first made possible a real "genetic" treatment of Plato's philosophy by proving, what all subsequent investigations have only confirmed, that the "dialectical dialogues" were later than the *Republic*, and closely related to the *Timæus*, *Critias* and *Laws*. The best chapters in Raeder's book are certainly those in which he discusses the linguistic and stylistic evidence for the date of the dialogues and the variations in the form of the dialogue itself. What he has to say about the evidence of historical and other allusions is marked by sound

[1] It must, however, be observed that, though the work only appears now in a German dress, the Danish original dates from October, 1903, and there is therefore no reference to any later literature. In particular, Natorp's *Ideenlehre* (1903) is not dealt with.

[2] Raeder rejects only the *Hipparchus*, *Minos*, *Alcibiades II.*, *Theages* and, more doubtfully, the *Clitopho* and *Alcibiades I.* He defends even the *Epinomis*, and I am pleased to see that he accepts the *Epistles*. Paul Wendland has, however, promised to prove these spurious in the course of the year, so it will be well to wait for what he has to say.

judgment, and he shows how neglect of the dramatic form has led to many absurd mistakes.[1]

As indicated by the title, Raeder's treatment of the subject is "genetic," and that is quite as it should be. At the same time it must be said that this method has been much overdone of late, and has led to extreme views which are every bit as unacceptable as those of Schleiermacher and Grote. According to the former, Plato's system was already formed before the dialogues were written, and the appearance of development is due solely to pedagogic considerations. Plato wished to lead his readers gradually on from the mythical to the scientific form of his teaching, and the dialogues, read in a certain order, form a progressive course in which the doctrine, clearly present to Plato's mind from the first, is revealed to us step by step. According to Grote, there is no such thing as a Platonic system at all. Each dialogue is an exercise in method which must be taken by itself, and we cannot say that any one of them shows a more or less developed philosophy than any other. The "genetic" method easily runs into similar extremes, and Plato is sometimes represented as throwing off a number of successive systems in the manner of Schelling.[2] It is supposed that he has left us in his dialogues a complete record of his successive failures and changes of standpoint, and the result comes dangerously close to the view of Grote. Raeder does not go so far, and, in particular, he is quite clear that Plato never faltered in his adhesion to what is called the "doctrine of Ideas," which indeed is nowhere stated more emphatically than in the *Timæus*. He does, however, in my opinion, go too far in allowing a fundamental change in that doctrine—a point which depends very much on our interpretation of the *Parmenides*—though he has himself laid down a principle, which I do not remember to have seen stated so clearly before, and which contains in germ the solution of many puzzles. It is this. We all know that we must carefully distinguish between the historical and the Platonic Socrates, but that is insufficient. We must also distinguish between the Platonic Socrates and Plato himself. Most of the dialogues are Σωκρατικοὶ λόγοι and essentially dramatic; and while

[1] How easy it is to make such mistakes, is shown by the fact that Raeder, who is quite clear about the general principle, makes a particularly bad one himself. He says (p. 123) that the *Phædo* is proved to be unhistorical by the circumstance that in the *Apology* Plato is said to have been present at the trial, while in the *Phædo* he is said to have been absent. To begin with, this is wrong; for Socrates was put to death a month after the trial, and there is therefore no contradiction at all. When, however, Raeder goes on to say that the word οἶμαι in Πλάτων δέ, οἶμαι, ἠσθένει (*Phd.* 59 B) shows the whole thing to be a fiction, since, if Plato had really been ill, he would have had no need to make such a reservation, he forgets that it is Phædo of Elis who says this to Echekrates of Phleious, not Plato who says it to us. This is as bad as anything in Ast.

[2] *Cf.* Shorey, *The Unity of Plato's Thought.*

it is certain that Plato over and over again ascribes his own views to his master, we have no right whatever to assume that he is responsible for everything which he makes Socrates say.[1] If only Raeder had followed out this principle more thoroughly, he would have seen that there is an element of truth even in the views of Schleiermacher and Grote, and that this must be taken into account. It is surely the most likely view, now that we know the comparatively late date of the dialectical dialogues, that Plato did not formulate a distinctive system of his own till he was well advanced in life, and that, when once he had reached it, he did not afterwards modify it in essentials. What that system was, we must discover from the later dialogues with the help of the not very luminous or sympathetic statements of Aristotle. So far we must clearly go with Dr. Jackson, whether we accept his results in detail or not. But from this point of view, we may very well regard the intention of these later dialogues as mainly pedagogic, and we need not suppose that Plato has revealed in them his own struggles with fresh difficulties. In fact it is hardly credible that he should have published any of them until he saw his way pretty clearly to the solution of the problems they raise. It must never be forgotten that we do not possess Plato's actual lectures in the Academy, but only such parts of his teaching as he thought fit to make known to a wider public. So far, then, we may agree with Schleiermacher, but Grote's view, which is apparently the very opposite, can be partly justified too. It is quite intelligible that, in such publications, the question of method should take a prominent place, and we may even find it natural that some of Plato's dialogues, especially in the earlier period of his life, should stand in no definite relation to his own philosophical system at all.

These remarks are only meant to show that the "Platonic question" has by no means been solved yet. It seems, however, as if Plato was at last beginning to be studied with the same sort of care that has long been bestowed upon Aristotle. If so, Raeder's book will be an excellent *ἀφορμή*. We cannot go further without a clear knowledge of what has been done, and that we can gain most easily from the volume before us.

JOHN BURNET.

[1] *Cf.* Ep. II., 314 C, *διὰ ταῦτα οὐδὲν πώποτ' ἐγὼ περὶ τούτων γέγραφα, οὐδ' ἔστι σύγγραμμα Πλάτωνος οὐδὲν οὐδ' ἔσται, τὰ δὲ νῦν λεγόμενα Σωκράτους ἐστὶ καλοῦ καὶ νέου γεγονότος.* The last words are wrongly translated by Grote; they mean "smartened up".

VII.—NEW BOOKS.

Studies in General Physiology. By Jaques Loeb. 2 vols. Pp. 782. The Decennial Publications of the University of Chicago, sec. series, vol. xv. 1905.

In these two volumes Prof. Loeb has brought together thirty-eight selected papers previously published in various periodicals, mostly German. The volumes thus contain the most important contributions to general physiology of this very original worker. "A single leading idea permeates all the papers of this collection, namely, that it is possible to get the life-phenomena under our control, and that such a control and nothing else is the aim of biology." Comparative physiology has been for some decades unduly neglected by almost all the leading physiologists, who have concentrated their attention upon human physiology and have kept in view chiefly its relations to human pathology and medicine rather than the general problems of biology. Prof. Loeb's brilliant experimental researches in comparative physiology are therefore specially valuable at this time, because they are awakening a widespread interest in the more general problems. The most important papers of this collection deal with three topics: (1) the tropisms of animals, (2) heteromorphosis, (3) fertilisation of egg-cells. The papers of the last group report experiments in which Prof. Loeb succeeded in inducing development of the unfertilised eggs of sea-urchins and worms up to an advanced stage by means of chemical and physical treatment. The most interesting fact about these experiments is that their success seems to prove the reality of the author's insight into some of the chemical and physical conditions of growth, because it was achieved not merely empirically, but by the aid of theoretical considerations. The same is true, in much smaller degree, of the experiments of the second group. These consisted mainly of very simple manipulations by means of which the author succeeded in inducing worms and sea-anemones and other such creatures to develop new heads or mouths or tails in various unusual positions. The author is inclined to regard the constancy with which any such result follows the appropriate treatment as evidence of a long step made towards the mechanical explanation of life-phenomena and as a heavy blow to neo-vitalism. But to me at least the experiments seem to render any conception of the morphogenetic forces less, rather than more, possible. So long as each organ is believed to develop only in its appropriate relations with the rest of the organs of the body one can imagine a certain segregation of particles of like functions (call them gemmules or by any other of the many new names for this old conception) and reciprocal determinations of neighbouring groups. But if, as these experiments seem to indicate, every part is capable of developing any kind of structure and undertaking any kind of function if only subjected to the appropriate stimuli, these vaguely helpful conceptions must be rejected, and we stand more helpless than ever before the mysteries of growth,

differentiation and heredity. The conclusions drawn from the experiments on the tropisms of animals challenge criticism most loudly. The author tells us: "I have tried to find the agencies which determine unequivocally the direction of the motion of animals" and that "I consider a complete knowledge and control of these agencies the biological solution of the metaphysical problem of animal instinct and will". His experiments seem to prove that some lowly animals almost invariably move towards the principal source of light parallel to the direction of the strongest rays, more particularly of the visible rays of short wave length, while others have the opposite tendency (positive and negative heliotropisms); that others tend to mount against gravity (geotropism), and others to keep their bodies in contact with surfaces or edges of solid bodies (stereotropism). Two or more of these tendencies are combined in some creatures, and the author jumps to the conclusion that all the movements of these animals are unequivocally determined by the physical agencies that play upon them, that "by the help of these causes it is possible to control the 'voluntary' movements of a living animal just as securely and unequivocally as the engineer has been able to control the movements in inanimate nature. What has been taken for the effect of 'will' or 'instinct' is in reality the effect of light, of gravity, of friction, of chemical forces, etc."; that "however complicated they may be, the 'voluntary' movements of animals are nevertheless, . . . always unequivocally determined only by such circumstances as determine also the movements of bodies in inanimate nature". He regards not only "will" but also "instinct" as mystical conceptions. Yet if we regard an instinct as a congenital disposition of the nervous system which determines a certain mode of reaction to certain stimuli, the conception is purely material and might be thought acceptable to the crudest materialist. But Prof. Loeb is so blindly zealous to reduce the living organism to the plane of the billiard-ball that he grudges any credit to the structure of the organism. He should remember that even the billiard-ball only rolls because it is round, and that its path across the table is determined not wholly by the cue and the table but also by its own structure and properties, and that in a similar manner, even if we hold by psycho-physical materialism, we must regard the movements of animals as determined not unequivocally by the physical impressions made upon them, but as reactions upon those impressions, of which the form depends largely upon the structure of the animal and especially of its nervous system. The author asserts that he has proved the heliotropism of animals to be identical with that of plants, and concludes that, since plants have no eyes and nervous systems, therefore the eyes and the nervous system of the moth have nothing to do with its flying into the candle flame, and that this occurs merely because its protoplasm is positively heliotropic. The conclusion may possibly be true, but the reasoning is certainly false. By parity of reasoning men gather round the fire on a cold evening merely because their protoplasm is positively heliotropic. The author does well to deprecate some of the extremely anthropomorphic interpretations of the behaviour of lower animals, and if he contented himself with descriptions of observed effects he would be in a strong position; but he makes positive denials of the psychic life even more reckless than the assumptions in regard to it which he combats. Doubt is thrown upon even his more legitimate conclusions by some of his own observations, *e.g.* of nothing is he more positive than that movement toward the light is a direct unequivocally determined effect of the light on the protoplasm of animals, yet he himself describes an experiment (p. 54) in which a number of ants seemed to become

positively heliotropic only through imitation of others. His off-hand treatment of psychological questions is well-illustrated by the following passages,—"The worms lack *associative memory* and consequently also *consciousness*, which is only a function of the former. By associative memory we understand that arrangement of the brain by virtue of which a stimulus brings about not only the effects corresponding with its nature and the specific structure of the irritable tissue, but also the stimulating effects of *other causes*, which at a previous time once affected the organism at the same or almost the same time with the stimulus." "Whether the sensations of pleasure and pain are possible without consciousness cannot be absolutely decided."

W. McD.

The Anatomy of Knowledge: an Essay in Objective Logic. By CHARLES E. HOOPER. London: Watts & Co., 1906. Pp. 226. Price 3s. 6d.

The author of this book has no lack of self-confidence: 'Knowledge being quasi-organic,' he tells us in the preface, 'the philosophic analysis of knowledge may be appropriately regarded as concerned with the *anatomy of knowledge*. I shall venture to trace a parallel between the philosophy of the past and the pre-natal state of the organism; also between the post-natal state and that of the philosophy to which all earnest thinkers aspire, and at the birth of which I have the ambition to assist' (p. 14).

Whether the author's philosophical equipment is equal to his ambition to excel in philosophical midwifery may well be doubted. The very analogy between the growth of knowledge and the growth of a human organism seems little better than a piece of ingenious trifling. To call the 'least item of knowledge,' *viz.* a thought in its relation to the object thought about, a knowledge-cell; to compare the sciences to the different organs of the body, and certain fundamental principles present in all sciences to the 'vascular system of arteries and veins, and the nervous system, with its afferent and efferent branches,' is but an idle 'spielerei,' throwing no light on the real nature of knowledge or on those fundamental problems with which the author attempts to deal.

The author's own philosophical standpoint is not easy to indicate, because it does not seem altogether self-consistent. The following positions appear to be essential to what he calls 'objective logic': (1) The distinction between 'object-matter,' *i.e.* that *about* which we think, and 'subject-matter,' *i.e.* the thinking itself and the various 'symbols' (language, etc.) by which it is carried on. (2) Truth is the correspondence or 'symbolic reference' of this subject-matter to some real object-matter. (3) Real object-matter has a distinction of place, time, and kind from its corresponding subject-matter, and thus reality 'transcends' knowledge. If, on the other hand, the object-matter has *no* real distinction from the subject-matter, it is said to be *unreal*. (4) Object-matters may be concrete or abstract, singular or general (p. 33), but 'the only object-matters of the known world which are truly objects or concrete entities are material bodies or parts or systems' (p. 71). All else, *e.g.* consciousness, is merely an attribute or relation of material bodies. (5) If we inquire how we are to find out whether or no a given subject-matter corresponds to a real object-matter, we are told that 'there is no law of thought, as such, by which the correspondence of subject-matter to object-matter can be established. . . . It is therefore in the relation of thought to the not purely intellectual elements of experience, and to the objective world inferred from those elements, that we must look for

a primary confirmation of the hypothesis that anything is real. *Apart from logical reference to experience which is not purely intellectual, the assertion of existence, or reality, is sheer dogma devoid of any possible verification*' (p. 82). Further 'marks' of reality are singularity and concreteness (*ibid.*).

The obvious criticism on all this is, that it is the mere statement of the problem, not, as the author seems to think, its solution. Thus, to take merely the doctrine of the 'correspondence' or 'symbolic reference' of thought to the object, how can we ever *know* when this reference is 'true' or 'scientific'? In fact, the very distinction between thought and object is, surely, itself an act of thought, and contains within itself the same dualism, capable of being drawn out by yet another act of reflexion, and so on in infinitum. Nor does it help us to fall back on the 'non-intellectual' element in experience. Apparently the author means sense-experience, but as he himself adopts the Lockian distinction between primary qualities which are 'objective' and secondary qualities which 'do not belong to objects, as such' (p. 107), and admits (p. 106) that our 'passing perceptions' *symbolise* objects no less than our 'reflective thoughts,' it is hard to see how we touch reality here. In fact, the argument appears to involve a circle. For we are said to 'infer' the objective world from our non-intellectual experience, and inference undoubtedly involves thought. It appears then, that our sense-perception is symbolical of the objects which we infer from it, but in turn this inference, as involving thought, is *itself symbolical* of—what?

Incidentally the author deals with certain logical problems, but does not seem to be acquainted with the best modern thought on these subjects, unless he ignores such works as Mr. Bradley's and Prof. Bosanquet's purposely.

The second half of the book, containing an elaborate attempt at a classification and systematisation of the sciences, is in some ways most interesting. It certainly is exhaustive—to such a degree, that the author has had to invent quite a number of new names for sciences demanded by his scheme, but not yet existing, at least as independent sciences. Thus we hear of Peri-biology; Peri-anthropology; Ego-anthropology; Ethereology; Neo-history, etc. This whole attempt at classification, though it leads to some interesting remarks and side-lights in detail, yet is, like the analogy between knowledge and an animal organism, much of the nature of a clever intellectual 'spielerei' without much theoretical value. This applies more particularly to the elaborate diagrams (concentric circles with numberless sectors) by means of which the author tries to 'symbolise' the relations of the sciences. The attempt to label and pigeon-hole the efforts of the intellect in the apprehension of reality under its various aspects, must always be arbitrary and artificial, if only because it is bound to make the distinctions and boundary-lines far more definite than they really are.

In conclusion, the author promises another work on the 'tissues' or 'uniting principles' of knowledge, for he claims to possess 'certain genuine clues for exploring the anatomy of knowledge in these, its final, aspects' (p. 226). His present work does not incline one to look forward with much hopeful expectation to the fulfilment of that promise.

R. F. Alfred Hoernlé.

Dictionary of Philosophy and Psychology. Edited by JAMES MARK BALDWIN. Vol. iii., *Bibliography of Philosophy, Psychology, and Cognate Subjects.* Compiled by BENJAMIN RAND, Ph.D., Harvard University. Part I. Bibliographies, Dictionaries, etc.; History of Philosophy; Philosophers: their works, and works upon them—pp. xiv, 542. Part II. Systematic Philosophy; Logic; Æsthetics; Philosophy of Religion; Ethics; Psychology—pp. vi, 543-1192. New York and London: Macmillan, 1905.

This valuable dictionary is completed by the issue of the present volume which aims at furnishing, not an absolutely exhaustive, but a comprehensive bibliography of philosophy under the rubrics noted above. The importance of such a work certainly justifies the great amount of time which Dr. Rand has devoted to it during the last decade; and he is to be congratulated on terminating, on the whole successfully, what must have been a very laborious task. This copious bibliography substantially increases the value of Dr. Baldwin's dictionary, and Dr. Rand may rest assured that his work will certainly, as he modestly hopes, further research. It has a long career of usefulness in front of it; but perhaps its greatest service will be to stimulate the production of complementary works traversing the same ground more minutely and surveying it more systematically. For, although it is probably inevitable, and even just as well, that there should be one such work arranged throughout, like the present, alphabetically, such an arrangement has occasional serious disadvantages. It must be admitted that the research student requires more minute subdivision than the present work affords in some directions, while the exclusively alphabetical arrangement of the divisions given breaks up chronological order without furnishing him with any logical clues. Thus, suppose one desirous to work up the Philosophy of History turned to this volume: he would discover, probably to his surprise, that there is no section devoted to the subject, and we do not envy him the task of collecting his authorities from alphabetical lists under the heads noted above. Even more surprising is the absence of a section on Sociology, and one might even have expected another on Economics. The amount of material has, we are informed, been apportioned according to the relative importance of authors and subjects; but surely we are not to understand that the subjects just named are of no importance; or to infer from the proportion of pages that Psychology is twice as important as Ethics, three times as important as the Philosophy of Religion, or quite five times as important as Logic. No doubt the annual issues of the "Psychological Index" published by the *Psychological Review*—which since 1902, the date to which the lists given in this volume extend, has been and will continue to be published as its supplement—explains why we have an exhaustive bibliography in one direction, but it does not excuse the absence of any in others. Perhaps all the information is contained somewhere, but you certainly have to hunt for it. Where, for example, does one find Simmel's *Philosophie des Geldes*, or discover what Durkheim or Tarde may have to say on social questions? Then turning to authors: One could have wished that there had been a section "English philosophers: their works and works upon them". As it is English thought is only treated separately under "History of Philosophy," where it is dismissed in four columns; and although individual writers are treated of under "Philosophers: their works, etc.," it is not easy to see what raises a writer to the dignity of a section of his own. Why is there not one on Bradley as well as on Sidgwick? Why is there a lengthy

section on M. Fouillée while Ward only exists as *disjecta membra?* A feature of the work is the reference to important critical reviews by specialists, and the reference to periodical articles. The numerous references to MIND are given in a way that may prove misleading. The first volume of the New Series is numbered xvii., as consecutive to the sixteen volumes of the Old Series, disregarding, in a way that has very little to recommend it, our own method of numbering our volumes. Thus Dr. Bosanquet's article "Hedonism among Idealists," N. S., xii., is given on page 899 as MIND, xxviii. A number of these references have been tested and found correct, but not all. Thus the late Prof. Ritchie's article, "The One and the Many," is given on page 629 as MIND, xxviii. This ought, of course, on the system adopted, to be xxiii., as Ritchie's article was published in 1898, Dr. Bosanquet's in 1903. In spite of such a slip, however, great care has evidently been taken during the enormous labour of compilation and verification.

DAVID MORRISON.

Development and Divine Purpose. By VERNON F. STORR. London: Methuen's, 1906. Pp. xi, 287.

This book forms the first-fruits of the newly endowed lectureship in the philosophy of religion founded at Cambridge by Dr. Stanton, and those who observed the great promise of Mr. Storr's work as a philosophy tutor at Oxford and regretted that reasons of health took him away all too soon, will be delighted to see that he has obtained so congenial an opportunity of expressing his ideas in the sister university. And Mr. Storr's book will be no disappointment. Although the lectures which compose it are intentionally popular in form, they contain a singularly lucid, candid, and in some respects very effective, discussion of a great question. This question, perhaps that of the greatest real importance in philosophy, is as to how far the progressive making of reality which we call 'Evolution' can be, or must be, interpreted theistically, as the continuous "self-revelation of a Personal God and the gradual unfolding of the spiritual meaning of the universe" (p. 286). Mr. Storr does not venture to affirm that this can as yet be demonstrated, but his discussion of the relations of evolution, teleology and theology, evincing as it does a firm grasp both of the scientific and of the philosophic considerations which are germane to the problem, is thoroughly up-to-date and will be found helpful even by those who do not share his philosophic standpoint. That standpoint is apparently best described as being that of a 'personal idealist' pure and simple, and rather disarms criticism by the modesty of its claims. For example Mr. Storr admits that the belief in teleology rests on a human attitude rather than on logical proof (p. 267), that the teleological argument cannot establish the existence of a Creator (p. 198), but produces only a general impression which constitutes "an almost irresistible appeal" to human intelligence (p. 128). On the other hand he is not beguiled into using bad arguments, a failing too common in apologetic literature, and he has perceived what Kant and his transcendentalist followers have curiously failed to see, *viz.*, that there is no escape from a naturalistic interpretation of existence, if Hume's criticism of the volitional conception of Causation is allowed to stand unchallenged (pp. 271-274). If Mr. Storr will only give his belief in the validity of the conception of power the backing it needs from a voluntaristic metaphysic, if he will extend his explanation that ultimate convictions are attitudes rather than arguments also to those of his naturalistic opponents, if he will conceive the Divine purpose as not intrinsically

inscrutable, but as capable of being gradually gathered from its empirical working out in history, he will find that he has no reason to be ashamed of his preference for the teleological reading of the hieroglyphs of the cosmic history, and that his method has at least this indefeasible advantage over any other that it alone renders the course of events fully conformable with that of the human mind, and so alone renders the cosmic story truly intelligible.

F. C. S. Schiller.

Christianity and Sex Problems. By Hugh Northcote, M.A. Philadelphia: Davis Co. (London: Medical Supply Association), 1906. Pp. 257. Price 8s.

The author is an Anglican clergyman who has spent many years in New Zealand. He writes throughout from the standpoint of a liberal and comprehensive Christianity, discussing in order all the sexual difficulties and problems which are most frequently encountered in life. While the author's position is thus frankly Christian he stands apart from those writers of popular manuals on these subjects who moralise and dogmatise on a very slender basis of knowledge. He is in touch with the most competent scientific authorities on sexual questions, and he always treats with due consideration the arguments that oppose the conclusions he himself accepts. These conclusions are not in every case the most usual or conventional conclusions, but they are generally well worked out and brought to the touchstone of experience, so that they deserve respect even when they cannot be accepted. The book will be chiefly valuable to clergymen and ministers, who are constantly called upon to give opinions and guidance on the matters here dealt with, but will also be found helpful and instructive by many others.

Havelock Ellis.

The Meaning of Good: a Dialogue. By G. Lowes Dickinson. Third edition. London: Brinsley, Johnson & Ince, Limited. 1906. Pp. 224. Price 4s. 6d.

Readers of Mind will welcome this third edition of a book with which most of them will be familiar, but which has lost nothing of its freshness and suggestiveness since it was first reviewed in these pages (N. S., x., 413). Rather one may say that some of the characters in the book and their views have gained a fresh interest from their reappearance in a different setting in the author's latest book, *A Modern Symposium.*

L'attention. Bibliothèque internat. de psych. expérimentale. By W. B. Pillsbury. 1906. Paris: Doin. Pp. 305.

It was a happy idea to devote a volume of this series to Attention. This is and will always remain one of the central facts and problems of Psychology. Its treatment, however, has been often very diffuse and not always very explicit. Prof. Pillsbury has gathered the material together and gives a very clear and systematic account. After a review of the psychical effects and the motor accompaniments of attention, its conditions are reduced to two classes—the objective, consisting in the intensity, the extension and the duration of the stimulus; and the subjective conditions, namely, the idea present to the mind and the mental attitude at the moment, the education, the social *milieu* and the heredity of the individual. The conception of interest furnishes nothing new and the feeling of activity is itself a group of sensations. A detailed review

brings the conclusion that attention plays the same part in controlling processes of proximately central origin as in controlling those of peripheral origin. The conditions of the formation of association and recall are, apart from the intensity and repeatedness of the sensations, practically identical with the subjective conditions of attention above mentioned. Two interesting chapters discuss the relation of attention to perception and memory. The treatment of the theories of apperception rests naturally on Leibnitz, Herbart, Wundt and Stout, and leads to the following conclusion: Every one admits that nothing beyond the limits of consciousness can serve as an explanation of the facts of consciousness, at least in psychology. But every one seems to feel also that the simplest explanation would be to assume that an external agent, called conation, apperception or will, determines mental states, rather than to imagine them determining themselves. This is evident from the constant fluctuation in the theories of the last three of the authors named. The only decision we can cling to has its fundament in the facts of consciousness themselves. All we can say is, that consciousness changes in certain ways and that the changes in the present stand in definite relations to those of the past and to the primitive states of consciousness. Leaving aside completely all that is not psychology, we shall resolve the difficulty perhaps by saying "apperception is a term which expresses the fact that every event in consciousness differs in some degree from what it would have been had the preceding history of the individual been different, all present circumstances remaining identical. Apperception would then be merely a general term expressing the conditions of attention, the relation between the observed facts." The same broad conclusion results from a discussion of the theories of attention, which are all found to be incomplete. "Attention is not one of these things, individually, it is all of them taken together and more still. We cannot consider feeling or the sensation of the moment as an explanation of the process of attention, even in its simplest form. To understand it we must look back to the impressions received at more distant periods of our life and to the dispositions with which man is endowed at birth." Anatomical, physiological and pathological theories lead on to the chapter of general conclusions which closes the volume.

Prof. Pillsbury has written a useful book. His conclusions, however, seem to me to be too broad to be useful, unless he is consistent and dismisses the problem as illusory. Attention can be influenced by past experience, heredity, the social *milieu* and the like, but it surely has as little itself to do with these things, as a theory of digestion as such requires a survey of all we have eaten and been. Unless the problem is illusory, there must be facts which a clear eye for the phenomenology of consciousness will see and a functional basis for these, which psychology can discover. Entirely subordinate to this chief relation are any theories which spring from the hypothesis of evolution.

H. J. WATT.

Kant's 'Privatmeinungen' über das Jenseits und die Kant-Ausgabe der Königlich preussischen Akademie der Wissenschaften. Ein Protest von LUDWIG GOLDSCHMIDT. Gotha: E. F. Thienemann. 1905. Pp. 104. Price 2s. 6d.

This little book contains two essays which are essentially *polemical* in character, and will interest mainly those who have made a special study of Kant, and more particularly of the details of the text and the questions of interpretation arising out of them.

The author has made a name for himself in Germany by a number of books, pamphlets, and articles in philosophical periodicals, in which he appears in the *rôle* (somewhat rare in the annals of Kant-criticism) of an 'orthodox' Kantian, ready to defend the entire self-consistency of Kant's critical philosophy and to accept it as the final solution of philosophical problems. Hence he wages a vigorous and merciless war on the vagaries of current Kant-criticism, and attempts to show that the self-contradictions which successive generations of Kant-critics have professed to find in Kant's pages, as well as most of the textual alterations and emendations proposed by them, are mainly due to simple failure to understand Kant's meaning. It cannot be denied that in many instances Dr. Goldschmidt's attacks on the *Kant-philologen* seem well-deserved, and in any case, his whole-hearted defence of Kant is as refreshing as it is valuable. More especially he deserves the gratitude of every Kant-student for his reprint of G. A. S. Mellin's *Marginalien und Register zu Kant's Kritik der Erkenntnisvermögen*, first published in 1794-5 and praised by Kant himself, and for a facsimile reproduction of the *first* edition of the *Kritik der Reinen Vernunft*, original copies of which are nowadays very hard to obtain.

The first essay in the book under review deals with an apparently minute point of textual criticism, *viz.*, whether Kant meant to write '*keine* Privat-meinungen' or '*reine* Privat-meinungen' in the last sentence but one of the paragraph on the 'discipline of the pure reason in regard to hypotheses' (A. 781, B. 810). Most editors follow Hartenstein in adopting the latter reading, but Dr. Goldschmidt by an elaborate discussion of the Kantian distinction between knowledge and faith, scientific hypotheses and practical postulates, succeeds in showing that the reading '*keine*' is demanded by the context.

The second essay is a severe criticism of some of the textual emendations and corrections adopted into the new edition of Kant's works by the Prussian Academy of Sciences. Dr. Goldschmidt seems right, not only in showing that some of the readings adopted manifestly pervert the sense of Kant's argument, but also in his general criticism of the whole method of the 'critical apparatus' appended to the text of that edition, as serving merely to perpetuate the record of all the countless misinterpretations with which the path of Kant-criticism is strewn. If Dr. Goldschmidt's censures are justified, as they seem to be, the Academy-edition will not have made good its claim to be authoritative and final.

Whatever may be the merits of Dr. Goldschmidt's criticism in each individual case, there can be no doubt that he is one of the most thorough, earnest and sympathetic of Kant-students, whose views for this very reason demand attention and respect.

R. F. Alfred Hoernlé.

Saggi sulla Teoria della Conoscenza. Saggio Secondo: Filosofia della Metafisica. Da Cosmo Guastella. Palermo, 1905. 2 vols. Pp. 762 + 1044.

Eight years ago I gave an account in this Review (Mind, vol. vii., N.S., p. 576) of Prof. Guastella's first essay on the theory of knowledge. The present work represents the same point of view, but displays wider knowledge and still higher powers of philosophical reasoning. To be sincere, in my opinion it places the author in the front rank not only of Italian but of European criticism as an expert in the history of philosophy.

Prof. Guastella is a positivist of the positivists, one who pushes positivism to its furthest logical consequences. Not merely does he resolve our knowledge of causation into the recognition of invariable phenomenal successions, but he maintains that no other causes can be known, for the good reason that no other causes exist or can be conceived. But, granting so much, the question presents itself, how to account for the claim of metaphysics to go behind appearances and to present a satisfying explanation of the realities which are supposed to underlie them. According to our author the answer is to be found in a tendency which leads the human mind to interpret what is unfamiliar by the analogy of what is familiar, combined with the idea that familiarity is itself an explanation, that when one event has always succeeded another in our daily experience we accept this constancy as a sufficient reason for its occurrence. It is to this law of mind that the notion of efficient causation owes its origin. An efficient cause is a cause explaining its effect, a something from our knowledge of which the effect could be deduced *a priori* and independently of experience. Agnostics from Locke to Spencer, while denying that we can have such knowledge still allow the actual or possible existence of agencies that would put us in possession of it were they within the range of our observation and reasoning. But the philosopher who has learned to interpret the notion of cause in terms of simple sequence ought to understand that behind sequences there is nothing the discovery of which would explain them. The supposed hidden causes, were they disclosed, would be merely so many additional facts of experience.

The earliest and most familiar of all experiences is the power of voluntary motion; and for no other reason than its familiarity this power is accepted as self-evident. Thus for primitive man will becomes the type on which all explanations of unfamiliar happenings are modelled. Hence arise the various anthropomorphic theories of nature, from savage animism up to the most elaborate metaphysical theologies, and not theologies only but also the atheistic hylozoisms which, like Clifford's theory of mind-stuff, assume that the universe would be more intelligible if it consisted of nothing but conscious elements.

Another experience, only less familiar than voluntary action, is that the bodies without us move under the stress of their mutual impacts and pressures; and that this should be so is also assumed as self-evident from its habitual occurrence. Accordingly all the thorough-going systems of materialism explain natural events as more or less complicated atomic shocks, without considering that for bodies to move each other after contact is in itself no more intelligible than that they should move one another at a distance.

So strong indeed is the primary instinct of assimilation that it overrides and reverses man's original animistic philosophy. The spirit or consciousness to whose initiative all motion was once ascribed is in course of time declared incapable of acting on matter at all, or of being acted on by it. Hence arise theories of automatism and parallelism which Prof. Guastella regards as based on a fundamental fallacy—the fallacy that an effect must be explicable by its cause. And he makes this same fallacy responsible for the various metaphysical systems in which nature is constructed *a priori*, or in which such a construction is set up as the supreme ideal of knowledge. Of these the most typical instances are to be found in what he calls dialectic realism, a method to whose exposure his whole second volume is devoted.

As is well known, Auguste Comte identifies metaphysics with the explanation of phenomena by realised abstractions; and he regards this method as a necessary stage in the evolution of thought. But this the

author considers a mistake. The tendency to realise abstractions by no means coincides with metaphysical philosophy as a whole; nor has positivism explained why this tendency should characterise the transition from theology to science. His own attempt to account for it forms the most original and ingenious part of the present work. As usual efficient causation supplies the master-key. Abstractions come to be mistaken for objective realities as a result of their being first confounded with working causes; and they are so confounded because the chains of demonstrative reasoning into which they enter are mistaken for actual chains of antecedents and consequents. Plato, the founder of Realism, always presents his objectified Ideas as linked together by a dialectic method of progressive differentiation and specification; and analogous systems of deduction have been attempted by his modern successors, Spinoza, Hegel, and Taine. None of these thinkers ascribes to his realised abstractions an existence apart from the phenomena which they inform; but for all they constitute the driving mechanism by which phenomena are produced and intelligibly connected. And it is just this conception of realised ideas as forming a living organic unity which distinguishes their philosophy from the Realism of the schoolmen whose ideas are, as the author happily puts it, mere fossils, the relics of a misunderstood Platonism.

Hegel's system is very slightly treated in the sections on Dialectic Realism, and Taine's views on the subject, having never been systematically developed, afford little scope for serious criticism. It is otherwise with Plato and Spinoza; and Prof. Guastella's interpretation of their idealism, whether quite successful or not, is certainly original, searching, and suggestive. It seems to me that the latest developments of Platonism are not here sufficiently taken into account, and that Plato's tendency more and more to substitute the activity of concrete mind for the dialectic linking together of Ideas as the key to physical phenomena rather goes against the theory that he ever regarded the Ideas as efficient causes. It also seems arbitrary to dismiss Plato's own destructive analysis of the One and the Many in the *Parmenides* as consciously artificial and sophistic because it stands in the way of the new view. And Spinoza's declared nominalism opposes itself as a serious obstacle to the realistic interpretation of his philosophy. But these are questions for Platonic and Spinozistic experts, to whose attention the second volume of this Essay is earnestly recommended.

Prof. Guastella looks on the notion that there are efficient causes, in the sense of causes which explain their effects, as an illusion not peculiar to an early stage of mental evolution, but as necessarily inherent in the mental mechanism at all times. I do not agree with him there. In my opinion both what we call primitive men and civilised men who are not metaphysicians have no other idea of causation than unconditional antecedence, experimentally verified as such. Their interest does not lie in understanding how things are produced, but in producing them, or in getting other people to produce them. For this purpose it is vitally important to distinguish between unconditional antecedents and more or less accidental concomitants; and so by the time that disinterested speculation begins the necessities of practical life have already made people sufficiently familiar with the mechanism of experimental elimination. Why is night not looked on as the cause of day? Because to produce artificial darkness, as by closing up a cave, does not, after any interval of time, result in a blaze of light, whereas a judicious use of the fire-drill or of flint and steel does. Why is lightning not mistaken for the cause of thunder? Because the production of light is not in practice followed by a crashing sound. The collision or the bursting of clouds suggests itself as an antecedent more in harmony with common experience.

As to what the author calls dialectic realism, this evidently originates in the fascination exercised on philosophers by the marvels of mathematical demonstration. Plato desiderated a science which should do for all nature what arithmetic and geometry did for the empirical rules of mensuration, and which should explain the facts postulated by arithmetic and geometry themselves. Spinoza was evidently inspired by the same ideal; and Hegel more remotely influenced by it through their example. This, if you will, was an abuse of assimilation, but an abuse not necessarily accompanying its use, and at any rate remote enough from the idea of efficient causation, which, as I have said, is no other than unconditional antecedence rightly understood. What the French, who are very liable to it, call *simplisme* is the last infirmity of noble thinkers, and an infirmity from which Prof. Guastella himself is not entirely free.

A. W. Benn.

Che Cos' è il Bello? Schema d'un Estetica Psicologica. *Manfredi Porena.* Milano: Hoepli. Pp. xi, 483.

This book contains much that is suggestive, even for those who cannot approve the attempt to construct a purely psychological Æsthetic. It falls into two main divisions: the general theory of the beautiful, and the system of the arts.

The theory of the beautiful is subdivided into sections dealing with "the beauty of sense," with "expression," and with "inward beauty," by which I understand the beauty of content as such. Within "the beauty of sense" or "accessible to sense" (*il bello sensibile*) there are recognised immediate beauty and the beauty of relation, this latter including typical and final beauty. Within expression fall "expressive forms" and "expressive actions"—a distinctive correlative with that between immediate beauty and beauty of relation. And the treatment of inward beauty is divided in the same way into immediate inward beauty and the inward beauty of relation.

The system of the arts follows on the whole a type of classification familiar in recent continental æsthetic—the main division being taken between the "ideomimetic," *i.e.* the imitative or representative arts, including painting, sculpture and dramatic recitation; and on the other hand the "free" arts, architecture and music, the parallelism between which has dominated many æsthetic systems. A general treatment of the literary process from the point of view of representative perfection concludes the substantive part of the work. An appendix deals polemically with the theories of Benedetto Croce, with which the present writer is not acquainted.

It will be seen that the author's theory of beauty breaks up into three parts, each of which repeats within itself what is essentially the same distinction. It is with a certain intention, probably, that "expression" comes between "sensible beauty" and "beauty of content," between which it is a natural link. But as expressiveness or utterance has no special significance for the writer's doctrine, no true unity results from this collocation, and distinctions which might have stood for phases in a development appear to recur (as "beauty of relation" within "sensible beauty") within every phase. However, to pursue this point would perhaps be "*cadere nella metafisica*," which is the author's final word of censure.

The general definition of beauty is "that which pleases the mind or soul ('anima')," and the point thus made in the distinction between the æsthetic and the non-æsthetic senses is interesting. The eye and ear, it is boldly maintained, feel in their proper activity no trace of *localised* pleasure,

such as that which attends on taste or smell. "Their enjoyment is physically unlocalisable; it is an enjoyment of the soul, a consent, an approbation accompanied by pleasure which the soul bestows on a quality of the object . . . a pleasure of the soul void of sensory tone" like that which accompanies the approval of goodness or intelligence. Can this sharp separation be maintained? In treating of expression the author insists that the lower senses can give rise to beauty of expression though not to the true beauty of sense "the scent of new-mown grass has expressive beauty, artificial perfumes have not beauty of sense; "in the former case the soul judges, in the latter, the nose". There is truth in this; but when the lower senses are admitted to conjoin these distinct aspects of sense and soul, can the higher senses be restricted to one? Is there not in the greed of colour or brightness the same sensuous character which we know in the covetousness of the "lower" senses? The underlying question of principle is whether some deeper principle than the *de facto* character of the different senses would not have to be produced, if we are to account for the line between the pleasant and the beautiful of sense.

In the Beauty of Relation—which may be beauty of sense—there is always a demand or expectation or reference, a "*pretesa*," according to which we judge the presentation. In applying this view to typical beauty the author makes an ingenious suggestion for solving Burke's difficulty—if the normal of the species is the beautiful, how can beauty be novel or compatible with novelty? The author replies that while the abnormal is ugly, the common normal is only neutral and not beautiful. Beauty only appears in case of a coincidence with type which (the coincidence) is exceptional and not normal; the type here concerned being "a kind of ideal resultant in which the various components of the experience find their equilibrium; a form in which all the differences of too much and too little are eliminated". It is not, therefore, the common normal, or average. We should like to know more about this type, but there might be a danger *cadere nella metafisica*. The above is of course a gallant attempt to escape from the difficulty of accounting for beauty of relation on the basis of mere association. The author is anxious to maintain the pure subjectivity of beauty, and seems hardly to recognise that subjective genesis by association is compatible with any degree of objectivity of value, and that the latter is what we wish Æsthetic to explain. The same reference to an exceptional case of a character commonplace in itself is employed to explain the beauty of imitative art (only exceptionally skilled or difficult imitation has artistic value) and the "beauty of *judgment*" in the account of literary process (the exceptionally true or profound judgment may be called beautiful; what we should call an inspired saying.

The book is well written, and full of acute remarks and apposite instances. But the writer's repugnance to an "objective beauty" though he takes this merely to mean a beauty apart from perception, prevents him from unifying his views.

B. Bosanquet.

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Henry Sturt, *Idola Theatri, a Criticism of Oxford Thought and Thinkers from the Standpoint of Personal Idealism*, London, Macmillan, 1906, pp. xvii, 344.

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A. Marie, *La Démence* (*Bib. Int. de Psy. Expérimentale, Normale et Pathologique*), Paris, Octave Doin, 1906, pp. 492.

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H. Oppenheim, *Psychotherapeutische Briefe*, Berlin, S. Karger, 1906, pp. 44.

Joseph Segal, *Über die Wohlgefälligkeit einfacher räumlicher Formen* (*Inauguraldissertation-Zürich*), Leipzig, Engelmann, 1906, pp. 77.

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Alessandro Bonacci, *La Derogabilità del Diritto Naturale nelle Scholastica*, Perugia, Vincenzo Bartelli, 1906, pp. 292.

Giuseppe Fraccaroli, *Platone, Il Timeo* (*Il Pensiero Greco*, vol. i.), Torino, Fr. Bocca, pp. xvi, 424.

Federigo Enriques, *Problemi della Scienza*, Bologna, Nicola Zanichelli, 1906, pp. iv, 593.

P. H. Ritter, *Schets eener critische Geschiedenis van het Substantiebegrip in de nieuwere Wijsbegeerte*, Leiden, E. J. Brill, 1906, pp. vii, 476.

VIII.—PHILOSOPHICAL PERIODICALS.

PHILOSOPHICAL REVIEW. Vol. xv., No. 3. **A. Lalande.** 'Philosophy in France (1905).' [Discusses (1) the rationalistic and fideistic tendencies of French pragmatism; (2) the current movement towards a well-defined moral system of education; and (3) certain recent works in psychology and æsthetics.] **E. Albee.** 'The Significance of Methodological Principles.' [An examination of Kant's relation to rationalism seems to force us to the conclusion that 'regulative' principles can have no philosophical justification except in so far as they presuppose or correspond to the 'constitutive' principles of experience; yet these latter, in the nature of the case, can never be formulated. We escape the difficulty by realising that methodological principles are meaningless save in their functional relation to concrete experience. Knowledge and experience are thus progressively organised, on the implicit but inevitable assumption of the organic unity and immanent rationality of the world.] **E. C. Wilm.** 'The Relation of Schiller's Ethics to Kant.' [In his early work, Schiller sought to mediate between naturalism and spiritualism, now by an intermediate metaphysical agent, now by the forms of beauty. Contact with the critical philosophy deepened and clarified his thoughts; he is an independent critic of Kant, and gives fuller recognition to the desiderative side of man's nature.] **E. H. Hollands.** 'Schleiermacher's Development of Subjective Consciousness.' [It is the really original contribution of Schleiermacher to have pointed out the part which subjective convictions play in unifying and completing our experience. He thus appears, in his theory of subjective development, as supplementing rather than as opposing Hegel.] Discussion. **S. S. Colvin.** 'The Intention of the Noetic Psychosis.' [Transcendence means, not a going beyond experience, but the giving to it of a quality which in the moment of knowing removes its fleeting character, and assures it the permanence and reality which make it possible to be known.] Reviews of Books. Notices of New Books. Summaries of Articles. Notes.

PSYCHOLOGICAL REVIEW. Vol. xiii., No. 3. **J. M. Baldwin.** 'The Fechner Number.' **L. J. Martin.** 'An Experimental Study of Fechner's Principles of Æsthetics.' [An experimental examination of certain of the aesthetic principles laid down by Fechner in his *Vorschule*, without prejudice to the question whether or not the experiments really cover æsthetic ground, and without reference to any æsthetic theory on the part of the author. The longest study is devoted to the principle of the 'æsthetic limen,' with lines, differently curved and coloured, as materials: the relation of the æsthetic to the stimulus limen would seem to depend upon the method employed. Further chapters discuss the principles of persistence, summation, practice, etc.; of association; of contrast, sequence and comparison; and of the expression of pleasure and displeasure. The principle of association is widened by reference to chrom-

æsthesia and illusion. Those of contrast and sequence are probably invalid. That of expression merges in the modern principle of suggestion; further work upon this principle is promised. The paper is in many ways meritorious, especially upon the score of method. The observers were apparently all women, though this is not explicitly stated. The lack of a systematic standpoint, except as indicated by occasional remarks and quotations, gives the study an unfinished and preliminary appearance, which probably was intended by the writer: though this effect is needlessly heightened by careless composition and bad proof-reading.] Announcement.

American Journal of Psychology. Vol. xvii., No. 2. **A. Borgquist.** 'Crying.' [A paper based upon questionary returns. Classification: crying among primitive peoples; influence of age; physical causes and symptoms, etc. The crying act: analysis and effects (circulation, bodily attitude, vocalisation, lump in throat, sob, tears, etc.). Theories and interpretation of data: the biology and psychology of crying. Bibliography.] **E. H. Hollands.** 'Wundt's Doctrine of Psychical Analysis and the Psychical Elements and Some Recent Criticism.—II. Feeling and Feeling-Analysis.' [The difference between feelings and sensations, as subjective and objective, is not epistemological, but psychological. Wundt gives an introspective definition of 'subjective,' the chief element in which is tendency to fusion as distinguished from permanent discreteness. The canon of analysis is the same for feelings as for sensations, though the methods are necessarily different. The simplicity of the feeling is determined, not by reference to the sensational substrate, but by experimental variation of this substrate considered as feeling-stimulus.] **E. Murray.** 'Peripheral and Central Factors in Memory Images of Visual Form and Colour.' [Neither the attributes of the stimulus (qualitative and spatial) nor the general eye-movements prompted by them constitute the essential factor in visual reproduction. Reappearance and persistence, distinctness and accuracy of reproduction depend primarily on the relation of stimulus or image to central conditions and upon certain special motor phenomena accompanying fixation.] **J. P. Porter.** 'Further Study of the English Sparrow and Other Birds.' [Experiments with vesper sparrow, cowbird, English sparrow and pigeon on learning maze (with memory experiments), opening catch of food-box (with memory experiments), distinction of designs, colours, etc. The English sparrow leads in capacity for fear, boldness, caution, and independent action. The cowbird is almost as wary, but less bold. The pigeon is timid, and has a keen sense of sight. Distraction of attention by the conditions of captivity shows least in the English sparrow.] **A. F.** and **I. C. Chamberlain.** 'Hypnagogic Images and Bi-Vision in Early Childhood: a Note.' **L. J. Martin.** 'The Electrical Supply in the New Psychological Laboratory at the Leland Stanford, Jr., University.' Psychological Literature. Book Notes.

International Journal of Ethics. Vol. xvi., No. 2, January, 1906. **J. S. Mackenzie.** 'The Dangers of Democracy.' [Democracy means the self-government of a people; and this is the highest possible conception of government. Its one great danger is that, through misinterpretation in practice, it may fail to be true to itself and its own ideals, and become only the rule of the majority. The truest democracy is also the truest aristocracy—the state in which every one exercises rule in the things and in the measure in which he is fitted to do so.] **C. H. Toy.** 'Ethical Influences in University Life.' [The isolation of college life is

morally disadvantageous in its tendency to relax the sense of obligation, if not to indulge the feeling of antagonism, to general society. But the very detachment from multifarious interests makes it easier to take a larger view of life, and is so far favourable to the formation of ideals. The intellectual freedom and intercourse foster truthfulness and sympathy.] **W. L. Cook.** 'Ten Years of War and the Hague Treaty.' [The next practical step in the development of the peace idea is that mediation be accepted as *obligatory* by the signatories of the Treaty.] **Mary E. Richmond.** 'The Retail Method in Reform.' ["The whole of social reform is in the retail method, when we follow faithfully wherever its careful working out may lead."] **C. F. Yonge.** 'Suicide: Some of Its Causes and Preventives.' **I. W. Howerth.** 'The Industrial Millennium.' ["The industrial millennium is a perfected industrial democracy. . . . Before it can come, in anything but form, the spirit of democracy must grow."] **R. C. Cabot.** 'Ethical Forces in the Practice of Medicine.' **D. H. MacGregor.** 'The Practical Deductions of the Theory of Knowledge.' [An idealist theory of knowledge does not yield trustworthy teleological deductions.] **F. Arnold.** 'The So-Called Hedonist Paradox.' [Argues that there is no paradox in the search for pleasure.] **C. S. Myers.** 'The Vivisection Problem: a Personal Explanation.' Book Reviews. Vol. xvi., No. 3, April, 1906. **J. Royce.** 'Race Questions and Prejudices.' [In dealing with race-problems we are prone to confuse the accidental with the essential; to take as fundamentally characterising a race what is only a product of special conditions; and to regard as insuperable difficulties that are due to defective organisation. Race-problems are elemental social antipathies intensified, through suggestion and habit, into racial hatred and prejudice.] **J. MacCunn.** 'The Ethical Doctrine of Aristotle.' [The moral end is realisable here and now in the action that best meets the concrete situation. Practical insight is the outcome, first, of the valuations which themselves imply both moral nurture and individual experience, and then of the settled habits that come from deliberate action. Truly moral conduct involves the organic union of character and intelligence, of predisposition and ever-new adjustment.] **J. G. James.** 'Revivals: their Ethical Significance.' [Revivals are significant as the forward swing following on periods of decadence in morals, although steady and continuous progress would be preferable to these extremes. They are significant also as indicating that personality is the most potent force in human life and the highest category in ethics.] **M. Sturge Henderson.** 'Some Thoughts underlying Meredith's Poems.' **Dickinson S. Miller.** 'Matthew Arnold on the "Powers" of Life.' [He enumerates the powers of conduct, of intellect and knowledge, of social life and manners, and of beauty. We may add those of bodily life and the senses, of the affections, and of religion. Rightly viewed, the power of conduct includes all.] **G. Spiller.** 'A Method of Dealing with the Labour Problem.' [An account of Ernst Abbe and the regulations of the Karl Zeiss *Stiftung* in Jena.] Book Reviews.

Revue Néo-Scolastique. Février, 1906. **G. Ysselmuiden.** 'Baconian Induction.' [Science inquires into the forms of simple natures, the 'nature' being the sensible quality, and the 'form' its innermost reality, as motion is the 'form' of heat.] **A. de Poulpiquet.** 'The Central Point of the Controversy of the Distinction of Essence and Existence.' [The point is this, that between actual existence and nothingness there is a mean, potentiality, which has a "reality distinct from actuality, irreducible to actuality, permanent under actuality".] **S.**

Deploige. 'The Conflict of Morals and Sociology.' [Points out the difficulty experienced by M. Durkheim in defining Sociology. Like a chemical body, a society has properties other than the sum total of the properties of its individual components.]

Revue de Philosophie. 1er Avril, 1906. **G. Bertier.** 'Rational Beauty.' [That beauty consists in entirety and proportion of parts, and adaptation of the whole to the end, and is not, as Tolstoi says, *tout ce qui plaît*.] **F. Warrain.** 'The Triad of Reality.' [Reality is composed of three roots, which in isolation are inconceivable, unknowable, unintelligible, namely, as Wronsky enumerates them, being, knowing, and a neuter element which is the union of the two.] **J. Ingegnieros.** 'Physiology of Musical Language.' [That the centres specialised for musical language are true sub-centres to those of ordinary language, standing to them in the relation of part to whole.] 1er Mai, 1906. **W. James.** 'Pragmatism.' [Address to the University of California: a series of articles on Pragmatism is promised.] **Baron Charles Mourre.** 'The Duality of Self in Sentiment.' [There is in every sentiment an idea and an emotion: the idea consists in an opposition of self to self, the present self being compared with the past or future.] **F. Warrain.** 'M. Couturat's Principles of Mathematics.' [Logic and mathematics interpenetrate one another so intimately that they may be said to make one science, called General Logic, the science of all formally necessary reasoning.] **R. Meunier.** 'Vegetarianism, a Hygiene for a Philosopher.' 1er Juin, 1906. **E. Baudin.** 'The Philosophy of Faith in Newman,' analysis of H. Brémond's *Psychologie de la Foi*. [An appeal from formal reasoning to the illative sense: "for faith thus conceived reason is the enemy, or almost so".] **J. Gardair.** 'The Divine Being.' [Of the positive knowableness of God as the great Exemplar, on the principles of St. Thomas, in reply to Père Sertillanges, O.P., who speaks of "the superiority of night over day for declaring what God is".] **C. Mourre.** 'The Duality of the Ego in Emotion.' [That every emotion involves some glance at self.] **C. Dessoulavy.** 'A Finite God,' based on Mr. Schiller's 'Riddles of the Sphinx'. Altogether a good number.

Revue Philosophique de la France et de l'Etranger. 31e Année. No. 2, Février, 1906. **André Lalande.** 'Pragmatisme et Pragmaticisme.' [In this article, the recent philosophical movement generally called pragmatism is briefly characterised in its various forms: *i.e.*, the pragmatism of Peirce, the radical empiricism and broad pragmaticism of W. James, the humanism of F. C. S. Schiller, the *disirrigidimento* of theories and beliefs, as set forth by the writers of the review *Leonardo* in Florence, and the new interpretation and defence of religious dogmas presented, from the pragmatist's point of view, by some recent authors. According to M. Lalande the general problem implied in these various forms of the doctrine is the following: How to find something that shall control and judge the individual thought, and constitute it into truth? He believes that the *collective* action and thought are able to yield a criterion and to restore for the individual mind that authority of the impersonal reason whose weakening is the most striking feature of the present state of philosophy.] **Georges Palante.** 'L'Ironie: étude psychologique.' [Psychologically irony has its source in the "*Doppelgängerei*," *i.e.*, in the dissociation of understanding or reason, and sensibility or intuition. Its metaphysical principle lies in the contradictions of our nature and also in the contradictions of the universe or of God. The ironist's attitude implies that there exists, in the heart of the things, from the point of view of our

reason, an element of fundamental and irremediable absurdity. Irony has the same principle as pessimism. In our days of social and moral dogmatism, irony constitutes a useful counterbalance, and should be welcomed by all the intelligences which strive to be disinterested.] **Dr. Rogues de Fursac.** 'De l'avarice : essai de psychologie morbide (fin).' [Studies especially the egoistic sentiments and the conduct of the miser in its relation to the external world, to the management of his estate, and to morality. The author's conclusion is that avarice tends towards the progressive restriction of the whole being, towards the decrease of the individual, the social and the family life, and is, on this account, profoundly immoral.] Notes et Documents. **Dr. J. L. B.** 'Sur l'inhibition exercée par la pensée sur la tonicité et les réflexes musculaires.' Analyses et comptes rendus. Revue des Périodiques étrangers. No. 3, Mars, 1906. **Fr. Paulhan.** 'Le Mensonge du Monde.' [Existence is subjected to two universal laws : the law of systematisation and the law of evanescence : by this latter word is denoted the disappearance of a system which, through its own improvement and completion, has rendered itself useless. Contradiction lies in the very heart of things. Existence supposes both systematisation and opposition. Lie being a systematisation which covers and conceals a disharmony, it appears to be representative of the general life of the world, not only of that of the societies and the individuals, but also of the physical and chemical systems, of the molecules and atoms. The profoundest and most general characteristic of the world may thus be summed up in this phrase : the universal lie. These ideas and some of their consequences are in the paper presented in an almost schematic form, but the author's purpose is to develop and justify them in a series of books.] **F. Pillon.** 'Sur la philosophie de Renouvier.' [A critical account of a recent book of M. G. Séailles on this subject. While holding fast to the fundamental principles of the neo-criticism, M. Pillon admits some of M. Séailles's objections, and indicates what modifications should be introduced into Renouvier's doctrine in order to give it a perfect logical coherence.] **Ch. Ribery.** 'Le Caractère et le Tempérament.' [In determining and classifying the temperaments, we must start from the consideration of the nervous system ; this method is the only one which is in conformity with the data of present science. But we have been till now in the *heroic* period of the science of character ; we have studied it in a literary, rather than in a scientific, way, and we should now limit ourselves to more positive inquiries.] Notes et Documents. **Vte. Brenier de Montmorand.** 'Hystérie et Mysticisme : le cas de Sainte Thérèse.' [Shows, by a careful examination of the arguments afforded on both sides, that it remains doubtful whether Sainte Thérèse were hysteric or not. M. de Montmorand's opinion is that the same doubt is to be had about most of the other orthodox mystics.] Revue Critique. **J. Segond.** 'Le moralisme de Kant et l'Amoralisme contemporain.' [The recent work of M. Fouillée on this topic is analysed, and his refutation of both the metempirical moralism (except in so far as Fouillée's criticism concerns some of the neo-criticist theories) and the Nietzschean amoralism is approved as fundamentally sound.] Analyses et comptes rendus. Revue des Périodiques étrangers. With the March number is issued in a special number of 156 pages the third list of contents of the *Revue Philosophique* (from 1896 to 1905). No. 4, Avril, 1906. **G. Compayré.** 'La Psychologie de l'Adolescence.' [A critical notice of the recent book of G. Stanley Hall on *Adolescence*. The work is a powerful and suggestive one, unparalleled for the richness of information, and it prepares the way to new inquiries on a most fruitful and important subject ; but the critic

does not agree with M. Stanley Hall about the genetic psychology sketched by him and the scientific and practical value he claims for it.] **G. Belot.** 'Esquisse d'une morale positive.' [States briefly the main conclusions of a book which will be published shortly. Life in society is the common condition of all human activities and ends, whatever they may be. Society is the supreme end because it is the universal mean. Consequently the general formula of practical morality is "Faire exister la société," and in most cases the particular problems of ethics consist in harmonising needs, interests, or institutions already existing. Founded on this principle, ethics would be at once rational and positive, and appears to be essentially suited to a democracy, not only as originating from it, but principally as preparing its very completion: for it organises the functions of the individual and forms the person by the self-same work by which it orders society, and it tends to realise the unity and life of the social whole, not through the enslavement but through the freedom of the individuals.] **P. Gaultier.** 'Le Rôle Social de l'Art.' [Art is social in itself simply because there is no æsthetic emotion, in the heart of its admirers and of the artist, without living sympathy, intimate communion and reciprocal penetration. Every work of art is social in its effects because it is social in its principle, and the more beautiful it is, the more social it is: nothing is more social than a masterpiece inasmuch as there is nothing that arises out of a more profound and more universal love. But neither a moralising purpose nor an explicitly social end is to be assigned to art. It is social and moral without intending to be so, merely in striving to fulfil its specific function, which is, first of all, to manifest and to evoke in others the æsthetic emotion.] Notes et Documents. **G. H. Luquet.** 'Note sur un cas d'association des idées.' Analyses et comptes rendus. Revue des Périodiques étrangers.

Revue de Métaphysique et de Morale. 14e Année, No. 2, March, 1906. **J. Lachelier.** 'La proposition et le syllogisme.' [Logicians ought to distinguish between propositions of inherence and propositions of relation. The latter constitute syllogisms fundamentally different from those of the Aristotelian logic. Lachelier proceeds to criticise the traditional analysis and classification of the propositions and syllogisms of inherence.] **G. Belot.** 'En quête d'une morale positive.' [The concluding article of this series, continued from the issue of September last.] **Mario Pieri.** 'Sur la compatibilitié des axiomes de l'arithmétique.' [A study in the new philosophy of mathematics.] **L. Couturat.** 'Pour la Logistique.' [A lengthy and detailed reply to Poincaré's criticisms of the positions taken up by Russell and Couturat.] **C. Bouglé.** 'Note sur les origines chrétiennes du solidarisme.' ['Solidarisme' is not of Christian origin. The modern attempt to reorganise society on scientific and rational principles is due to recognition of the insufficiency of the subjective feelings of love and charity as a basis for the duties of active benevolence.] Livres nouveaux, etc.

Zeitschrift für Psychologie und Physiologie der Sinnesorgane. Bd. xli., Heft 2 und 3. **G. Heymans.** 'Untersuchungen über psychische Hemmung.—IV. Schluss.' [The visual experiments show that suppression and intensive contrast may be subsumed under inhibition. The author appends some theoretical conclusions as to the distribution of mental energy.] **K. Goldstein.** 'Merkfähigkeit, Gedächtnis und Association: ein Beitrag zur Psychologie des Gedächtnisses auf Grund von Untersuchungen Schwachsinniger.—II.' [Experiments on memory.

We must distinguish between memory proper and power of observation (*Merkfähigkeit*). Both rest upon impression (*Einprägung*) and power of associative observation; memory depends more upon the former. Imbecility is characterised by impressionableness, with lack of power of associative observation; acquired feeble-mindedness shows a fair activity of association, with defective impressionableness. The main defect of congenital feeble-mindedness lies in defect of apperceptive disposition (*Anlage*).] **M. Foth.** 'Wie rahmen wir unsere Bilder ein?' [Negatively, the frame rules out from the picture the distracting impressions that surround it; positively, it should further the associations upon which æsthetic illusion depends. Hence the colour of the frame should be chosen to correspond, as far as possible, with the natural surroundings of the scene or object shown in the picture.] **R. Hohenemser.** 'Die Quarte als Zusammenklang.' [By its vibration-ratio of 3 : 4 the fourth is the first chord whose natural base or fundamental lies not in the lower but in the higher of the component tones. At the same time, the lower tone, as lower, presents itself as base or fundamental. It is the conflict thus arising which gives the fourth its peculiar harmonic character.] Literaturbericht. **W. Muench, J. Trueper, W. Ament.** 'Kongress für Kinderforschung und Jugendfürsorge.' Bd. xli., Heft 4. **D. Katz.** 'Ein Beitrag zur Kenntnis der Kinderzeichnungen.' [The child draws, not what he sees, but what he knows to be present in the object or picture. This fact raises the question of the injection of meaning into sense complexes. The author offers an explanation in terms partly of vision itself (symmetrical position of the eyes; maximal clearness of apprehension), partly of the co-operation of sight and touch.] **E. Jaensch.** 'Ueber die Beziehungen von Zeitschützung und Bewegungsempfindung.' [We have apparently direct sense criteria only for the rate of movements, not for their length. Associative processes give us our bearings as regards position and attitude of the limbs. If now we are asked to execute two movements of the same length from different starting-points, neither of these criteria, the direct or the indirect, are adequate. We therefore have recourse to another set of associations, and estimate in terms of time.] **E. Jaensch.** 'Ueber Tüuschungen des Tastsinns: im Hinblick auf die geometrisch-optischen Tüuschungen.' [First part of an experimental report on cutaneous illusions of filled and empty space.] Literaturbericht.

Archiv für die Gesamte Psychologie. Bd. vi., Heft 4. **A. Kirschmann.** 'Normale und anomale Farbensysteme.' [(1) The use of the direct must be supplemented by that of the inverted spectrum. Both show mixtures of wave-lengths; and the quality of visual sensation depends upon the absence rather than upon the presence of a certain group. (2) Colour systems must be achromatic, dichromatic or polychromatic; the 'component' theories are artificial constructions. (3) The invariable colours of indirect vision are no proof of a component theory; on the contrary, they are necessary consequences of the changes undergone by a polychromatic system with change of retinal position (change in the form of the base of the double cone).] **A. Lehmann.** 'Beiträge zur Psychodynamik der Gewichtsempfindungen.' [Raises the questions whether facilitation (*Bahnung*) is the cause of the Fechnerian negative time error, of anomalous differences and of typical tendencies, and whether the positive time error may be explained by the conditions of experimentation. The experiments were made in Fechner's way, mainly by the method of limits, with a control by the method of constant differences. The law of facilitation is confirmed; the positive time error

results from the co-operation of facilitation and predisposition (*Einstellung*). Incidentally, the writer is able to show the influence of the separate factors in the weight-complex: movement (articular) sensation, pressure, and strain sensation. Issue is taken with Mueller on various points, as, *e.g.*, on the effect of fatigue in determining the negative time error, and on the part played by judgment of absolute impression. The paper ends with methodological suggestions.] **P. Stern.** 'Berichtigung.' [Reply to Duerr.] Referate: Einzelbesprechungen.

KANT-STUDIEN. Bd. x., Heft 4 and 5, November, 1905. **G. Gerland.** 'Immanuel Kant, seine geographischen und anthropologischen Arbeiten.' [The concluding article of this series. In it Gerland expounds and gives a very destructive criticism of Kant's *Natural History of the Heavens*. It is quite wrong to speak of a Kant-Laplace hypothesis, or to describe Kant as the founder of modern cosmology. Kant's treatise is, in its main tenets, inspired by Wright's earlier work; and, owing to its inherent defects, necessarily remained without important influence. Its value and significance are chiefly personal and philosophical. Garland concludes by consideration of Kant's later geographical and anthropological treatises.] **M. Runze.** 'Karl Rosenkranz' Verdienste um die Kant-Forschung.' [A brief account of Rosenkranz' various writings upon Kant and of his edition of Kant's works.] Recensionen, etc. Bd. xi., Heft 1. February, 1906. **G. Huber.** 'Graf von Benzel-Sternan und seine "Dichterischen Versuche über Gegenstände der kritischen Philosophie".' [These verses inspired by the various fundamental doctrines of the Kantian system are here printed *in extenso*. They were first published in 1794.] **M. Rubinstein.** 'Die logischen grundlagen des Hegelschen Systems und das Ende der Geschichte.' [By an examination of the logical principles of the Hegelian philosophy Rubinstein leads up to the conclusion that Hegel owing to his absolute standpoint fails to account either for history, for the moral consciousness, or for known personality.] **F. Behrend.** 'Der Begriff des reinen Wollens bei Kant.' [An attempt to define what Kant, throughout his philosophy, means by the term 'rein,' as applied to thought and to the will.] **W. Lütgert.** 'Hamann und Kant.' [A review of recent works on Hamann. Lütgert collects the main facts which they bring to light regarding Kant's connexion with Hamann.] Recensionen, etc.

ZEITSCHRIFT FÜR ÄSTHETIK UND ALLGEMEINE KUNSTWISSENSCHAFT, herausgegeben von MAX DESSOIR. Stuttgart, Ferdinand Enke, 1906. Bd i., Heft 1, M. 5. This is the first appearance of a periodical which aims at being the special literary organ of those who are scientifically active about questions of æsthetics, of whom there are a goodly number in Germany, and, one would hope, an increasing number in English-speaking countries. The present part contains ten sheets, and we are promised four parts *per annum*, of eight to ten sheets each, to constitute a volume. The Prospectus promises very good things, and, if the publication maintains the standard it has set itself in its first number, it is not likely to complain of want of support, and may look forward to the prosperous career which we heartily wish it. The number contains the following articles: **Theodor Lipps.** 'Zur "ästhetischen Mechanik".' [Shows how certain simple lines proceed freely, or with innate necessity, from certain forces, tendencies, activities, etc. The æsthetic impression produced by these lines is due to the synthesis of the feeling of these forces, etc., and this or that line is to be employed only where the thought of such forces, etc., has meaning.] **Konrad Lange.** 'Die aesthetische

Illusion im 18 Jahrhundert.' [The author shows by reference to the views of Goethe, Schiller, Moses Mendelssohn, etc., that his *Illusions-ästhetik* is only a continuation of classical Æsthetics which had been misunderstood by Lessing.] **Hugo Riemann.** 'Die Ausdruckskraft musikalischer Motive.' [A very interesting article dealing with the simplest elements, which are taken up into the greatest musical forms.] **Georg Simmel.** 'Über die dritte Dimension in der Kunst.' [The third dimension not an inseparable accident of the painter's art—the Japanese do without it. The third dimension not being optically visible the conveyance of the suggestion of tactile values into a work of art enriches and strengthens it.] **Hugo Spitzer.** 'Apollinische und dionysche Kunst.' [These correspond to the division between *affektfreie und mit Affekterregung einhergehenden Kunstwirkungen*. This first instalment of the article is occupied with a discussion of the definition of "Affekt".] **Theodor Poppe.** 'Von Form und Formung in der Dichtkunst.' [The æsthetic form has no material existence, only certain material presuppositions. The technical form being the concept of those conditions which assure the material existence of a work of art. Endeavours to illustrate the process of poetical production, and discusses the medium in which the poet works.] Besprechungen. Schriftenverzeichnis für 1905. Erste Hälfte. [This is carefully classified.]

Archiv für Systematische Philosophie. Neue Folge, Bd. xii., Heft 1, 25th February, 1906. **Kurt Geissler.** 'Über Begriffe, Definitionen und mathematische Phantasie.' [The first instalment of an important article investigating the meaning of Definition and its relation to concepts and to fundamental facts or presentations. Seeks definitions of a point, a straight line, a parallel, an angle, opposing Hilbert and Frege's view of Definition.] **B. Lemcke.** 'De Voluntate. Metaphysische Axiome einer Empfindungslehre.' [Seeks to demonstrate an *a priori* knowledge of the will, and to exhibit the analogy between the axioms of Will and movement. Will is, in fact, movement known in a special, one-sided way; and its laws must be derived from the laws of motion—as the better known—not conversely as Schopenhauer imagined.] **Prof. Dr. Hoffmann.** 'Exakte Darstellung aller Urteile und Schlüsse' (*Nachtrag*). **Richard Skala.** 'Bei welchen Tatsachen findet die wissenschaftliche Begründung der Erscheinungen ihre Grenzen?' [Inadequacy of the materialistic explanation of feelings, desires, etc. Plea for their interpretation from within.] **Bernhard Wities.** 'Humes Theorie der Leichtgläubigkeit der Menschen und Kritik dieser Theorie, nebst Versuch einer eigenen Erklärung.' [Rejects Hume's explanation of credulity and traces the latter back to the child's identification of the meaning of a word with the reality of its content. It only slowly learns to separate presentation and object as reflexion develops, and in the credulous thought is still in a rudimentary condition.] **Ernst Schwarz.** 'Über Phantasiegefühle' (Schluss). [Concludes a very interesting article. The *Phantasiegefühle* undoubtedly real emotions intermediate between presentations and serious feelings.] **Lorenz Pohorilles.** 'Die Metaphysik des xx. Jahrhunderts als induktive Wissenschaft.' [Metaphysics if identical with epistemology has no future. Metaphysics upon an inductive basis is, however, assured of its position as a science for ever, and Dr. J. Sinnreich has prepared the way for Metaphysics as an inductive science by his *Transcendentaler Realismus oder Korrelativismus unserer Tage*.] **James Lindsay.** 'Two Forms of Monism.' [Scientific Monism *v.* Spiritualistic Monism.] **David Koigen.** 'Jahresbericht über die Literatur zur Metaphysik.'

VIERTELJAHRSSCHRIFT FÜR WISSENSCHAFTLICHE PHILOSOPHIE UND SOZIOLOGIE. Jahrgang xxx. (Neue Folge, v.) Heft 1, 30th March, 1906. **Siegfried Kraus.** 'Ein Beitrag zur Erkenntnis der sozialwissenschaftlichen Bedeutung des Bedürfnisses.' [Partly critical, partly constructive. Rejects the materialistic conception of History, and shows that the human individual, as the subject of desires and feelings, is purely determined by himself in his positing or his being, and that only his now-being or so-being, the concrete forming of his desires, appears determined by the rest of the world, his *milieu*. Discussion of the problem of the system of needs.] **Richard von Schubert-Soldern.** 'Über die Bedeutung des erkenntnistheoretischen Solipsismus und über den Begriff der Induktion.' [Epistemological Solipsism does not assert that I alone exist in the world, or that I am the world, but only that all knowledge is locked up in the "Ich Zusammenhang"; that I cannot attain to a knowledge lying outside the widest stretch of my consciousness. Discussion of the relation of the causal connexion to the solipsistic and the methodological value of the latter. The importance of the epistemological analysis (on the basis of the solipsistic connexion) for the theoretical and practical sphere. Discussion of induction.] **H. Reybekiel-Schapiro.** 'Die introspektive Methode in der modernen Psychologie.' [Interesting review with criticisms of the views of Brentano, Comte, Erdmann, Rehmke, Volkelt, Horwicz, Exner and Wundt.] Besprechungen, Philosophische Zeitschriften, Bibliographie, etc.

ZEITSCHRIFT FÜR PHILOSOPHIE UND PHILOSOPHISCHE KRITIK. Bd. cxxvii., Heft 1. **H. Siebeck.** 'Über musikalische Einfühlung.' [The result of '*Einfühlung*,' according to Siebeck, is the conversion of an outward object into a subjective emotional experience. Now the peculiarity of music is that it gives this experience more directly than is possible with the plastic arts, for example. 'We do not begin by perceiving the object that excites the feeling in us, but we have, so to speak, an auditory intuition of the feeling itself. And it is the sum of the feelings so excited that produces the (æsthetic) mood in ourselves' (p. 12). Among other peculiarities unmusical lovers of art prefer their æsthetic enjoyments to be the reward of a certain effort.] **Karl Andresen.** 'Zur Begründung des Theismus.' [E. von Hartmann is right when he postulates the existence of an irrational principle at the bottom of the world, wrong when he places that principle inside instead of outside God. Let him see his error and he will develop into a good theist.] **W. Pailler.** 'Das Raumproblem.' [An attempt to prove that non-Euclidean geometry is based on the tacit assumption of Euclidean principles.] **Chr. D. Pflaum.** 'Bericht über die italienische philosophische Literatur der Jahre 1903 und 1904.' Recensionen, etc. Heft 2. **G. Noth.** 'Die Willensfreiheit.' [The writer supports freewill, chiefly basing his argument on our ability to strengthen certain motives by concentrating the attention on them.] **Ludwig Goldschmidt.** 'Beiträge zur kr. d. r. Vernunft.' [An adverse criticism of sundry emendations of Kant's text, which, according to the writer, merely prove that those who propose them do not understand Kant's philosophy.] **H. Th. Lindemann.** 'H. Taine's Philosophie der Kunst.' [The writer, who is an adherent of Benedetto Croce, treats Taine's æsthetic theory as a worthless survival of the metaphysical method, and more particularly of Hegel's intellectualism.] **E. Dutoit.** 'Bericht über die Erscheinungen der französischen philosophischen Literatur im Jahre 1902.' **A. Vierkandt.** 'Ein Einbruch der Naturwissenschaften in die Geisteswissenschaften?' [A protest against the attempt of some recent writers to use

the biological theory of selection as a key to social problems.] **W. Pailler.** 'Das Raumproblem.' [Attempts to prove Euclid's axiom of parallels by projective geometry.] · Recensionen, etc.

Rivista Filosofica. Anno vii., vol. viii., Fasc. v., November-December, 1905. **A. Varisco.** 'La finalità della vita.' [Taking his text from Reinke's *Philosophie der Botanik*, the writer argues, against Reinke, that although the apparent purposiveness of living organisms cannot be explained away as a subjective illusion, we are not brought any nearer to an explanation of its causes by phrases about 'determinants,' etc., which merely repeat the fact to be explained under an abstract form. Modern thought discountenances the hypothesis of a personal designing Creator; while to talk about 'immanent ideas,' or a 'universal subject underlying reality,' neither of which is conscious, amounts to no more than repeating that the organism is so constructed as to maintain and reproduce itself.] **A. Pagano.** 'La Sociologia e l'insegnamento secondario e superiore.' [A plea for literary as distinguished from scientific education, and within literature for greater attention to the history of civilisation as distinguished from philology.] **A. Franzoni.** 'Sul Nietzsche.' [A summary of some recent German and French criticisms on Nietzsche.] Rassegna Bibliografica, etc. Anno viii., vol. ix., Fasc. i., January-February, 1906. **C. Cantoni.** 'Sull' Idealismo Critico. Saggio di una difesa del sapere volgare.' [Common sense is justified by the highest philosophy in maintaining the existence of a reality distinct from thought. But an unthinkable reality would be self-contradictory; nor can thought be conceived as a product of its own object. Moreover, there is a knowledge transcending experience, due to the spontaneity of mind, as even Locke admitted.] **B. Varisco.** 'Fisica e Filosofia.' [Agreement is much harder of attainment in philosophy than in physical science, because there the power of convictions based on unreasoned experience is much greater. But even in philosophy ultimate agreement is not beyond all hope.] **G. Vailati.** 'La teoria del definire e del classificare in Platone e i rapporti di essa colla teoria delle idee.' [Plato's ideas have some analogy with the law of universal causation as employed by modern science.] **A. Pagano.** 'La Sociologia e l'insegnamento secondario e superiore (continuaz. e fine).' [An able plea for making a good working knowledge of how government is carried on part of a liberal education.] **A. Faggi.** 'A proposito di una Teoria Epicurea.' Rassegna Bibliografica, etc. Fasc. ii., March-April, **G. Calò.** 'L'Etica di Giorgio T. Ladd.' ['The merit of the American philosopher is to have seen that moral consciousness implies the unity of all the functions constituting personality; his mistake is not to have seen that in the feeling of ethical approbation, and hence of obligation we have as it were a resonance of the whole personality in the exercise of its fundamental functions.'] **G. Chiabra.** 'La psicologia Matematica dell' Herbart e la psicofisica moderna.' [Chiefly an attack on the idea that mental phenomena can be effectively studied by quantitative methods.] **G. Bonfiglioli.** 'La gnoseologia di Tertulliano nei suoi rapporti colla filosofia antica.' [Tertullian follows the Stoics in deriving all knowledge from the senses.] **A. Ferro.** 'Meccanismo e Teleologia.' [A plea for the reality of final causes based on the usual arguments in their favour.] **O. Zanotti Bianco.** 'Schopenhauer e la gravitazione universale.' [Interesting as showing that an Italian scholar can still be found who believes in the forged letters of Pascal published by Michel Chasles (p. 261).] Rassegna Bibliografica, etc.

IX.—NOTES.

ROYAL DANISH ACADEMY OF SCIENCES AND LETTERS.

The Royal Danish Academy of Sciences and Letters offers to competition the Gold Medal of the Academy for the best reply to the following question:—

Examine the relation between Criticism and Pragmatism from the point of view of the theory of knowledge and from the psychological point of view.

By Criticism is meant the views of those philosophers who attach themselves more or less closely to the principles laid down by Kant: by Pragmatism that treatment of the problem of knowledge which seeks to show that the real development of knowledge, the conditions which it supposes, and the process which it follows must be determined by the exigencies to be met and the ends to be attained.

The reply to this question may be written in Danish, Swedish, English, German, French, or Latin. The articles, *not* bearing the name of the author but a motto, must be accompanied by a sealed envelope having the same motto and enclosing the name, profession and address of the author. The replies to be sent before 31st October, 1907, to the Secretary of the Academy, M. H.-G. Zeuthen, Professor, The University, Copenhagen. The name of the laureate will be published in the month of February following, after which the authors may withdraw their memoirs.

New Series. No. 60.] [October, 1906.

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY

I.—ON FLOATING IDEAS AND THE IMAGINARY.

By F. H. Bradley.

In this paper[1] I shall attempt to deal briefly with several subjects or perhaps aspects of one subject. My aim throughout is to advocate the same main conclusion, but no satisfactory treatment of the questions opened is possible within these limits. The first discussion will be about the existence of floating ideas, the next will examine the difference in content between the 'real' and the 'imaginary,' and the third will inquire as to the relation between imagination and play, together with the distinction between play and earnest. The conclusion to be urged or suggested in each case is that a hard division between the real and the imaginary is not tenable. The true nature and criterion of reality must hence be sought and found elsewhere.

I. I will take first the question as to floating ideas. This should be preceded by a discussion of the nature of ideas in general, but such an inquiry is obviously not possible here. I must content myself here with referring to the conclusion which I have advocated elsewhere.[2] Every idea[3] essentially qualifies reality, but no idea on the other hand does this simply and bodily. Every idea has its own existence as

[1] The first two divisions of this article may be taken as a commentary on various parts of my book *Appearance and Reality*. See especially pp. 366 foll.

[2] In *Appearance* (see the Index) and in various articles in Mind (O. S., No. 49, p. 23; N. S., No. 40, pp. 5, 6; No. 41, p. 17, and No. 44, pp. 27, 28)

[3] This holds even of the idea of 'nothing'. See below p. 455

a fact, and with this side of its being it, as an idea and so far, does not qualify reality. Its essence, we may say, lies in ignoring or in discounting this side of itself. And thus everywhere truth and ideas have a double aspect. But every idea, used as an idea, must so far attach itself as an adjective to the real, and hence in the end there will be no such thing as an idea which merely floats.

This conclusion is very commonly rejected as false. Its falsehood is at times even silently assumed against those who maintain its truth. And certainly at first sight any such doctrine seems open to grave objection. "An idea," it may be said, "always, if you please, refers in some sense to the real world, and always, if you please, neglects or discounts its own private existence, if, that is, it possesses any. But on the other hand there are ideas which plainly do not qualify the real. When an idea is taken as false it may even be repelled and denied. And, apart from this, ideas may be recognised as merely imaginary, and, taken in this character, they float suspended above the real world. The same thing happens wherever we deal with questions, with ideal experiments, and again with those suggestions which we merely entertain without pronouncing on their truth. And how, when you do not know that an idea is true, or when you even know that it is not true, can you say in such a case that the idea qualifies reality? In such cases the idea, it is plain, can do no more than float." There is force in this objection, and with myself, I admit, the objection at one time more or less prevailed.[1] I will now however, attempt to show briefly that it rests upon misconception.

The misconception is in short a false assumption as to the limits of the real world. Reality is identified with the world of actual fact, and outside of this world floats the unsubstantial realm of the imaginary. And actual fact, when we inquire, is in the end the world which is continuous with my body. It is the construction which in my waking hours[2] I

[1] *Principles of Logic*, p. 4. There are, besides, various expressions used in the account of ideas which is given there, which are more or less objectionable. So far as I know, these expressions have not been used by me since, though I hardly understand how a careful reader of the volume could be deceived by them. The term 'sign' or 'symbol,' for instance, implies strictly, I suppose, the recognised individual existence of the sign. And obviously with an idea this aspect may be absent. There are other expressions also which, if you take them literally, are certainly false, and also inconsistent with what may be called the general doctrine of the book. But I hope that the statements as to ideas, which I have made several times since 1883, are less misleading.

[2] In the end in my present waking moment. This point is further discussed in the second part of this paper.

build round this centre. My body, taken in one with my present feelings and with the context which in space and time I can connect with this basis, is regarded by me as actual fact while all else is unreal. Thus my dreams are facts so far as they take their place as events in the real series, while the contents of my dreams are not real since they cannot so be ordered. The real world on this view is a group and series of actual events, and the test in the end is continuous connexion with my felt waking body. This is the doctrine which consciously or unconsciously underlies our common view as to the actual world. And it is this doctrine, I think, which usually is asserted or implied when the existence of mere floating ideas seems plausible.

I do not purpose here to discuss formally the truth and consistency of this view of reality's limits.[1] The doctrine is in trouble at once with regard to the actual existence of past and future. It fails wholly to explain the position given to the sphere of general and of abstract ideas. And to say that, when confronted with the facts of the spiritual world, with art and science, morality and religion, it proves inadequate, is to use a weak expression. The truth is that no one except for certain purposes really believes in such a view, and that no one for other purposes can fail, however unawares, to reject it. And, without pausing to consider any possible attempts at defence, I will proceed to offer another view which seems at least more in accordance with fact.

Every man's world, the whole world I mean in which his self also is included, is one, and it comes to his mind as one whole. It necessarily does so even when he maintains that it truly is but plural. But this unity is perhaps for most men no more than an underlying felt whole. There is, we may say, an implicit sense rather than an explicit object, but none the less the unity is experienced as real. On the other hand above this felt totality there is for the average man an indefinite number of worlds, worlds all more or less real but all, so far as appears, more or less independent. There are the facts perceived by the outer senses, and there is the inner realm of ideas and intimate feelings and passing moods. These regions more or less may correspond, but they do not correspond wholly. Then there is my present actual world, and the ambiguous existence of what has been and is about to be. There are the worlds of duty and of religious truth, which on the one side penetrate and on the other side trans-

[1] The foundation of this view is exposed in the second part of the present paper.

cend the common visible facts. And there are the regions of hope, desire and dream, madness and drunkenness and error, all 'unreal,' if you please, but all counting as elements in the total of reality. The various worlds of politics, commerce and invention and trade and manufacture, all again have their places. Above the sensible sphere rises the intellectual province of truth and science, and, more or less apart from this, the whole realm of the higher imagination. Both in poetry and in general fiction, and throughout the entire region of the arts and of artistic perception, we encounter reality. Things are here in various ways for us incontestable and valid, while in another sense of the word truth these things could not be called true. But this multiplicity of our worlds may perhaps be taken as a fact which is now recognised.[1] The diversity and even the division of our various worlds is indefinite and in a sense is endless. And, without entering further into detail, I will state at once how this diversity bears on our problem. Because there are many worlds, the idea which floats suspended above one world is attached to another world. There are in short floating ideas, but not ideas which float absolutely. Every idea on the contrary is an adjective which qualifies a real world, and it is loose only when you take it in relation to another sphere of reality.

On the one side the whole Universe or the Absolute Reality is the subject to which in the end every idea is attached. On the other side (and this is the side on which we have to dwell here) the reality qualified by an idea depends always on a distinction. The subject in a judgment is never Reality in the fullest sense. It is reality taken, or meant to be taken, under certain conditions and limits. It is reality in short understood in a special sense.[2] And hence when an idea floats above, and is even repelled by, one region of the world, there is available always another region in which it inheres and to which as an adjective it is attached. And everywhere, where we seem to find ideas which float absolutely, we can discover the ground to which really they are fixed.

I will go on to point this out in a variety of instances, but, before proceeding, I must lay stress on an important distinction. If 'judgment' is used in its ordinary sense of explicit judgment, where we have a distinct predicate and subject taken one as applied to the other, then it certainly is true

[1] *Cf.* Prof. James' *Psychology*, chap. xxi.

[2] It is not possible for me to attempt here to explain and justify the above. I may perhaps in passing point out that, if the subject were the entire reality, no place would be left for the existence of the idea.

that apart from judgment we have ideas. And if the issue is raised thus, and if not to be so predicated means to float, then inevitably we shall be forced to believe in floating ideas. For in doubt and in denial, to take obvious instances, we should find the evidence that they exist. But the issue if so raised, I must go on to urge, is raised wrongly. We have not to choose everywhere between an idea which is predicated and an idea which simply floats. On the contrary, an ideal content can qualify and be attached to a subject apart from any predication in the proper sense or any explicit judgment. And by virtue of such an attachment the ideas which relatively float are everywhere from another point held captive. The idea comes before my mind as suspended and as loose from a certain subject, and so far it floats. But none the less as an adjective it qualifies another subject. It is not predicated of this other subject, but it comes as attached to it or as inhering there. This other subject may be more or less specialised or more or less vague and general, and the union again between this subject and the idea may be more or less implicit. It may amount to little more than the immediate inherence of one aspect in a felt whole. But in every case of a floating idea this other subject and its attachment can be found. The idea in short, held free from one subject, coalesces more or less immediately with another subject from which in varying degrees it is distinct.

Thus in negation the idea denied is not in the proper sense predicated of another subject. But this idea in every case qualifies an alternative more or less distinct, and hence nowhere floats absolutely. The idea repelled is, in other words, felt to fall somewhere else. It may qualify another alternative more or less specified before the mind, or it may coalesce with that vague whole which comes to us as the residue of the Universe. But to existence unsupported within a void it never attains.

This qualification apart from explicit judgment can by reflexion everywhere be turned into formal predication. Whether before that we should speak of judgment I need not discuss. The point is that apart from predication ideas can qualify a subject. Hence you cannot conclude that, where predication fails, ideas, if present, must float, since the possibility of informal union between ideas and reality destroys this conclusion. The reader may now have realised the bearing and the importance of the above distinction, and I will go on to explain aud justify it in detail by considering various instances of floating ideas. We find obvious examples in negation and supposition, in the use of imperatives

and questions, and in the world of imagination and of mere idea. I will deal first with the case of imaginary ideas.

The imaginary in general is defined by exclusion from the real. It is something which positively possesses the character of this or that real world and hence suggests its inclusion there, but on the other hand is shut out from the limits of the world in question. And the world which excludes is primarily the world of actual fact. This world, we saw above, is made by construction from my real body. It is the region, in short, which is taken as continuous with that basis.[1] Whatever, having more or less the character of this series, nevertheless falls outside it, is imaginary, or, taken more generally, the imaginary is whatever is excluded by actual fact. And in a secondary sense the imaginary is what in the same way falls outside of any kind of world which is taken as actual. Now if an idea is admitted to be imaginary (which we have seen means unreal), how, it will be objected, can such an idea be the adjective of reality? And this problem is solved, we have seen, by the plurality of real worlds. The idea is repelled from one sphere but qualifies another, and in this other sphere is real. Reality, we feel, is a whole which extends beyond any special world. It is something which comes to us as wider than the distinctions we make in it. Hence, wherever an idea is repelled by a subject, there remains another field which in some sense is real. In this field the idea falls positively, inheres in it and qualifies it, and, when we reflect, we can express this inherence in a judgment. The idea, before we so reflect, is not a predicate, but the idea on the other hand is still not free. It is in the air, if you will, but you must add that it qualifies this air which is its support and reality.

Consider for example the world inhabited by the characters in some novel. Things not only here are so or otherwise in actual literary fact, but beyond this fact we recognise a world of reality. And this world does not consist in or depend on the mere event that Balzac or Thackeray chose to write down this or that detail.[2] It is the same elsewhere and in every world of the arts. The imaginary, we all say, has its laws, and, if so, we must go on to add, it has its own truth and own life, and its ideas, floating in reference to common fact, are hence attached to this its own world of reality. Thus again in abstract science, where we should refuse to say that truth is

[1] In the second part of this paper I will further discuss the nature of the basis mentioned above.

[2] See on this point Prof. Bosanquet's *Knowledge and Reality*, pp. 144 foll., followed by Prof. James in his *Psychology*, ii., 292.

imaginary, we could hardly assert the existence of any and every truth as an actual fact. On the other hand, whatever we might protest, we feel and know that truth somewhere must be real. Nay, even in the practical relation of desire and will, ideas are felt somehow to be real. Their reality in collision with their non-existence indeed makes the conflict in which we suffer. We suffer there most where most we feel that the idea has reality superior to the existence which excludes it. Our will is moved by, and it unawares insists on, the reality in another world of that idea which it brings here into fact. The star that I desire does not wander outcast and naked in the void. My heart is drawn to it because it inhabits that heaven which is felt at once to be its own and mine.

In the end and taken absolutely (to repeat this) there can be no mere idea. Reality is always before us, and every idea in some sense qualifies the real. So far as excluded it is excluded only from some limited region, and beyond that region has its world. To float in the absolute sense is impossible. Flotation means attachment to another world, a world other than that sphere which for any purpose we take here as solid ground and as fact. Now the region which we oppose to fact may be a distinct world, or may be a residue more or less unspecified. It may be this or that province of the ideal, or it may be no more than the undefined space which falls beyond what we distinguish as fact. But the province, or the mere residual space or vague background, is still reality felt as positive, and to this reality the idea is bound.[1]

We may deal rapidly with the position of the idea in imperatives and questions. The nature of an imperative has been already discussed in a previous number of MIND (N.S., No. 49, pp. 4 and 5), and we need not enter on that general topic. But with regard to reality it is with the idea here as in the practical relation generally. The idea, ordered to exist in our world, qualifies already the world of ideas and has reality there. The same thing holds again in interrogatives. In a question we have some known aspect of reality before us which we regard, at least here, as actual fact. We have next the suggestion of an idea, more or less specified or again undefined, which we assume to be somehow connected with our known fact. We have finally a demand for further knowledge in this direction. The demand is addressed

[1] The idea again may be excluded from the subject taken simply and in itself, or again from the subject taken merely as so far known. The negation in the latter sense may, if we please, be called privative.

to another mind, or even secondarily to our own, or again to material nature. The above knowledge (of which we have the idea) is absent from our known fact. But on the other hand this knowledge, the answer to our question, is not fetched from nowhere. We take it to be truth which already is there and which in some sense exists.[1] It already, that is, qualifies another realm of reality and to this realm it is attached.

We may pass from this to consider the case of supposition and hypothetical judgment. In supposition we use an idea which in one connexion is true and is real. This ideal truth we bring into relation with a "fact" taken in another sphere, in order to discover what result comes in a certain direction. This result is truth which is considered now, as before, to qualify and to be rooted in the ideal world. Supposition in short presupposes that the actual or real fact is not the whole of reality. It implies that there are other spheres, or other provinces of the same sphere, all connected in a wider Universe. Hence ideas once more never float except relatively. Their suspension involves a positive attachment to a point of support taken elsewhere.

I may perhaps be allowed to dwell somewhat longer on the problem raised by hypothetical judgment. It is obviously impossible for me here to discuss this fully either in regard to its psychological origin or logical value, and I must content myself with calling attention to a point which is essential. In a hypothetical judgment we have an assertion, and it is really idle to dispute this. If you suppose something then something follows, and, unless you know that this is so, you cannot say it. There is an assertion, but this assertion (properly) is not of actual fact. On the other side you have before you a datum which in some sense you take to be fact and actually real. And there is some connexion, you assume, between this fact and your ideal truth. But in spite of this connexion the fact is not the subject of your judgment, or rather it never is so except improperly and through mere implication.

In order to understand the hypothetical judgment we must keep in mind the following essential aspects. (1) The

[1] The reader possibly may object that, in the case of the future which I am to make, the above account will not hold. I reply that it holds here unquestionably as it holds elsewhere, and that otherwise the attempt at prevision would be meaningless. The difficulty is caused by the nature of a real fact which is future, a construction which is full of radical inconsistency. But in any case, if the idea of the future cannot qualify the world of fact and truth, it still does not float but is attached to the imaginary world.

subject of this judgment is never the actual fact. (2) On the other hand the actual fact to some extent enters into the judgment. And (3) in many cases the judgment contains an unavowed implication. It more or less covertly implies, that is, a certain connexion between its subject and the actual fact.

(1) In every hypothetical judgment there is actual fact to which the subject is opposed. This actual fact may be a perceived existence, or again it may belong to some ideal or imaginary world. But in every case the use of "if" marks a distinction between what we think and what is otherwise real. If a square could be round then something follows, which does not follow from an actual square. And 'if you attacked that man he would defend himself' does not make its assertion about that man. The man is not attacked, the square is not round, and you do not even suggest that either is so. And in 'if he goes there he will succeed' you do not say that he will go there. From him, as you know him, that predicate is absent, and your 'if' means that you are *not* speaking of the known actual man. In every case you are speaking of that which you suppose, and whatever you suppose you *ipso facto* oppose to what you take to be real. Otherwise there would be no sense in supposing and no meaning in 'if'.

(2) On the other side your assertion clearly in some sense refers to the actual fact. For otherwise, and if there were no connexion, who could think of supposing? If your assertion had positively or negatively nothing to do with your actual reality, it would be meaningless or at least must lose its hypothetical form. Thus on the one side you are dealing in some sense with actual fact. The subject of your judgment on the other hand is not an actual fact. But the actual fact is referred to and to some extent it enters into the subject of the judgment. We have first the actual man who is not attacked and who is not the subject, and we have next the supposed, the ideal, man of whom the judgment is true. If these two men are the same, our 'if' at least implies that we do not know this, while on the other side our 'if' implies that these men are connected. There is in short enough known identity between the two men to warrant a supposition. We thus assert about the ideal man but also refer to the other man. Our reference assumes that certainly between the two there is a partial identity, while our supposition means that, for anything we really know, there is a difference which on the whole is superior and prevails.[1]

[1] A hypothetical judgment (to state this otherwise) is itself always universal, but it implies that there is a question of bringing a designated case under this universal judgment. It implies that this question is

(3) So much as the above belongs to the essence of hypothetical judgment. Many cases however present an additional aspect, which has given rise to difficulty and to error. We have often a further implication as to the amount of identity between the ideal subject and the fact, and, owing to this implication, the judgment, while hypothetical in form, may assert or deny of the actual. In *si vales bene est* there is an implied identity, between the supposed and the actual, sufficient to justify the use of *est*. On the other hand in *si tacuisses philosophus esses* we assume a known difference, between the two cases of yourself, sufficient to warrant a denial of the conclusion in fact. This implied identity or difference can exist in a variety of degrees, and the actual meaning conveyed by the judgment may depend upon this implication. But this implication, we must not forget, falls outside the hypothetical form. It is often absent from it, and when present it may even be said to contradict it, since it involves knowledge on a point where the use of "if" assumes ignorance. Hence this accidental meaning conveyed by some hypothetical judgments is foreign to the essence of the hypothetical form. And a want of clearness on this point must everywhere, I think, preclude an understanding of that essence.

With these brief but, I fear, too lengthy remarks, I must pass from the hypothetical judgment. Assuming everywhere, as that does, various realms of reality and truth, the consideration of it has tended to confirm our main conclusion. The ideas which float have in every case another world in which they are based and secured.

When we pass to the alleged existence of floating ideas in the case of negation, we find a subject too intricate and too difficult for discussion here. I must content myself with a summary statement of the conclusion which I adopt.[1] By negation I understand a denial of the intelligible and not a mere refusal to entertain the unmeaning. And the main point here is this, that all negation is relative. Negation, whatever else it is, is repulsion, repulsion not absolute but from a subject formed by distinction within reality. Reality therefore is always wider than the subject which negates

worth considering, and (taken strictly) it implies that the answer is unknown.

I should remind the reader that in the above discussion I assume throughout that the account of existential judgments, which I have given elsewhere, is correct.

[1] On the subject of negation I would refer the reader to Prof. Bosanquet's admirable Logic.

and beyond this subject we have always a region taken in some sense to be real. And the idea, which is repelled from the subject, falls within this other world and qualifies it.

I do not mean that in all negation the alternative is distinct.[1] The alternative on the contrary may be unspecified in various degrees. Our other world may amount to no more than that vague residue which remains after the subject has been selected. But, however undefined this other may be, it is the region into which the banished idea is sent. The idea never floats, like Mahomet's coffin, between both worlds, or somehow hangs nowhere. And the idea once more belongs to and qualifies that world which it inhabits. I do not mean that the idea, when repelled from one subject, must be predicated of another subject. Predication, we have seen above, is not asserted wherever floating ideas are denied (p. 449). The union of the repelled idea with the other world may be no more than a coalescence in feeling and in various degrees may be immediate. But this union, we have seen, is a qualification and amounts to a bond. And with this summary result I must pass from the claim of floating ideas to exist in negation.

[1] See above.

[2] I will deal briefly and in passing with several difficulties. (i.) Where the subject, from which the idea is repelled, is the Universe at large, it may be objected that we have no longer here a distinction taken within reality. The answer is that here the Universe as a whole is distinguished from its own partial contents. What we deny is that the idea, which qualifies a finite sphere within the Whole, is in the same sense true of the Whole. But obviously I cannot here discuss the difficulties which in the end beset the general doctrine of truth and the ultimate distinction of subject and predicate. (ii.) It may be asked how the idea of 'nothing' can qualify reality. I answer, as before, in general that exclusion from the Universe admits presence in a field of distinction falling within the Universe. And I answer further that 'nothing,' being always relative, can always qualify such a field. If there were a genuine idea of sheer nothing, the case would be altered. But without entering into further difficulties and into refinements for which there is no space, I may state broadly that this is impossible. We cannot have a consistent idea of nothingness if that is made absolute. (iii.) But I may be asked further how an idea, if self-contradictory, can qualify the real, and whether therefore, in asserting that all ideas qualify reality, I am not in conflict with the Law of Contradiction. The question is interesting, and to myself it is even more interesting when followed by another, How when self-contradictory ideas in some sense exist (as is allowed to be the case), is it possible that such ideas should *not* in some sense qualify the real? Such questions cannot however be properly discussed apart from an inquiry into the ultimate meaning of contradiction. I have undertaken this inquiry elsewhere (*Appearance* and MIND, No. 20, p. 482), and must here be allowed to take the result reached by it as true. And resting on this basis I reply as follows to the objection just raised. The self-contradictory, as it anywhere qualifies the real, is taken so far not to

I have now in various instances attempted to justify the denial of floating ideas. If the principle has been made clear to the reader, I think that further detail would be superfluous. Ideas float, but they float relatively, and there is another ground always which supports them, and of which they are adjectives. They need not be predicated of this ground, and, if such a necessity is assumed, then the denial of floating ideas, I agree, is untenable. But this necessity rests, I urge, upon a false alternative. Without predication an ideal content can qualify more or less immediately a subject from which it is distinct. And such a qualification is all that our conclusion requires.

Every possible idea therefore may be said to be used existentially, for every possible idea qualifies and is true of a real world. And the number of real worlds, in a word, is indefinite. Every idea therefore in a sense is true and is true of reality. The question with every idea is how far and in what sense is it true. The question is always whether, qualifying reality in one sense, the idea qualifies reality in another sense also. For, true in one world, an idea may be false in another world, and still more false if you seek to make it true of the Universe.

II. It may serve to throw light upon the whole subject if I go on to discuss briefly a well-known doctrine. We often hear that between an object as imaginary and the same object as real there is no difference in content, or at least that such a difference, where it exists, is not essential. This

contradict itself. Incompatibles, such as round and square, if you connect them in another world are *not* taken as simply united in one subject. And, apart from such a union, they are no longer incompatible. You may suppose a distinction more or less specified in the imaginary subject to which they belong. Or again, without any such positive supposition, you have at least by your repulsion from the 'real' world removed the point of identity through which they collide there. The incompatibles hence fall into and coalesce with the residual mass of unspecified conjunction. As qualifying this somehow they are compatible, and you can, if you please, go on to predicate both as true. On the other hand, if even in an imaginary world you seek to unite round and square simply in one subject, they once more cease to qualify this 'real' world. They are once more exiled to a further outlying world of mere imagination, in which, being again merely somehow conjoined, they can both together be real. The references given above will, I hope, furnish the explanation of this brief answer. I would however once more remind the reader that in any case, by even speaking of contradictories, we tacitly assume them to be somehow conjoined, and I would add that any view of contradiction which fails to deal with this aspect of the case is at best incomplete and is probably defective. The difficulty raised in connexion with the Law of Contradiction will I think, when fully considered, tend to confirm on every side the truth of the main conclusions which I defend.

doctrine is often stated as axiomatic or as at any rate incontestable, and certainly I do not doubt that it possesses truth. On the other hand the truth possessed by it seems partial and limited. And in the end and in principle the doctrine must even be called false.

About its plausibility there is no question. What is the difference, we are asked, between a real and an imaginary shilling, and, if they differ as shillings, how do they differ? Suppose that they differ, then take this point of difference, whatever it is, and in imagination remove it. There will now no longer be any diversity in content between the two shillings, which still remain two. This contention obviously is plausible, and, though there are difficulties—to my mind insoluble—which result from its acceptance, the prevalence it has acquired is not surprising.

On the other hand, when we reflect, the counter-doctrine seems no less plausible. The real shilling, it has been remarked, does things, where the imaginary shilling has no power. The former is an active and in some sense a permanent constituent of the real world. And this difference appears to be essential and to affect the internal content of the shilling. You may perhaps deny this, and may attempt to argue that any such difference falls outside the two shillings. They are to differ, that is, barely in and through their external relations and not at all in themselves. And of course continuance will be a mere matter of external context. But this is to assume that a thing's relations, which make all the difference to other things, or, at least all the difference beyond itself, make no difference at all to itself. And this assumption, if it is tenable, seems at least not free from difficulty. For in the end the doubt is suggested whether in the end, when you have removed the relations, there is any shilling at all left.

You may answer perhaps that this abstract difficulty leaves you unmoved. At any rate when the "real" external relations are cut off, what in fact is left is no more or less than the imaginary shilling. But this answer, I will go on to show, apart from any objection based on general principle, is in practice unavailing. For we have not to deal merely with two shillings, the one real and the other fancied. There is not on one side a single 'real' world of fact and on the other side a single world that I call 'imaginary'. On the contrary a man has, as we saw, an indefinite plurality of worlds.[1]

[1] In a work of fiction, for instance, we have the imaginary worlds of the characters over against their real world, and so on indefinitely.

Now this diversity of worlds, and the presence of the same object in various worlds, seems to bear on our problem. If on the one side you agree that these worlds are diverse, each through a different content, it seems natural to think that the object's quality may be affected in each case by this difference. But if on the other side all these worlds are to be diverse without differing in content, such a doctrine, if tenable, has surely at least ceased to be plausible. It seems to commit us to the view that there is an indefinite number of distinctions without any difference or that there are differences between things which do not really differ. For myself such a conclusion tends to the dissolution of all things, whether real or imaginary, and at any rate there will be few, I think, to whom it commends itself at once as plausible.

If now leaving general considerations we test our doctrine by applying it to special cases, we discover that at least it has limits. The whole distinction in short between the imaginary and the real tends, as we apply it, to become invalid. The first instance I will take is the case of the Universe or Reality, for it is better, I think, here not to use the instance of God. Can we speak of the Universe as being merely real or as being merely imaginary? Is it not on the other hand plain that such a distinction falls within the Universe? If we oppose the real to the imaginary, then clearly the Universe is neither or both. Taken as a whole it falls on neither side of this opposition, and is not comprised in either the real or the imaginary world. Both these worlds on the contrary are contained within the Universe. So far then as we maintain the hard distinction between imaginary and real, we can neither say that All is real nor that All is imaginary. This distinction, and with it the whole doctrine which we are considering, has proved inapplicable or mistaken.

Again let me take the case of my real self. My real self, as I am now aware of it, appears to be unique, and in contrast with it I have a variety of imaginary selves. Now, if the doctrine in hand is correct, the difference between my imaginary selves and my real self does not rest on content. It must on the other hand somehow consist in mere external relations. But this conclusion, if in the end it is not senseless, seems contrary to what experience here suggests. The distinction between imaginary and real seems at least here to rest on a felt difference, and, where there is a felt difference, it is natural to assume a diversity in content. To suppose that my real and imaginary selves are in themselves interchangeable, and that there is no diversity here except

in that which falls outside each, seems, in the presence of the actual fact, to be unmeaning or at least untenable. Thus, as applied to the Universe, we found that the doctrine, which we examine, proved invalid, while now in the case of my real and my imaginary self it seems even vicious.

But the doctrine without doubt possesses truth, truth not unlimited but partial. So far as you can abstract from the diversity of your different worlds, whether real or imaginary, you can take their contents as merely the same. And to a certain extent and in many cases it is legitimate and useful so to abstract. But, while the doctrine taken in this sense is true, in any other sense it seems not true. It is first not true that the content so abstracted is in the strict sense imaginary. This content on the contrary is so far neither real nor imaginary. And again it is not true that all the diversity from which you abstract must consist in something other than content. You cannot take this diversity as everywhere something external, which leaves objects unaffected in their character. For in the end the whole distinction of imaginary from real fundamentally rests, we shall find, on a difference in quality. If, to repeat, you abstract from the difference between the imaginary and the real, you obviously so far have no difference of any kind between them. But, if on the other hand the difference between them is to be maintained, it must rest in the end on a difference in felt content.

What is the imaginary? This is a question which up to a certain point we have answered already. The imaginary, we saw, is not something indifferent to which reality could simply be added. The imaginary is qualified by exclusion from real existence, and apart from that exclusion it loses its character. And real existence, I have now to urge, depends on a positive quality.

My 'real world,' we saw, is a construction from my felt self. It is an inconsistent construction, and it also in the last resort depends on my present feeling. You may protest that its basis is really my normal waking self, but in the end you have no way of distinguishing such a self from the self which is abnormal. In the end my foundation is and must be my present self, whatever that happens at the moment to be. In madness or drunkenness we have the distinction of imaginary from real, and the distinction seems here to be as good as elsewhere. Nay even in dream I may construct another world which is the environment of my dream-body, and may oppose to this reality a mere imaginary world. The basis of the opposition everywhere is, in a word, present feeling, and one present feeling, if you take reality so, stands

as high as another. And the conclusion suggested is that the above opposition of 'real existence' to 'mere imagination' is in the end invalid and breaks down.

But, however arbitrary my procedure, my real world is taken as that which is continuous with my normal waking felt self. And it is by exclusion from this real world that the imaginary is made. Thus if I and a hundred other men were to dream the same dream, and in somnambulism were to act from our dreamt world, this world would remain unreal because not continuous with the world of my self as normal and waking. By virtue of exclusion from this world the realm of the imaginary is defined. And it is only at a stage of mind which is comparatively late that such a division is made. Thus the gulf fixed between imaginary and real existence, however necessary and useful it may be, is at once arbitrary and novel.

And the points to which I would direct the reader's attention are these. (i.) The existence of the imaginary depends upon my real world, and (ii.) the existence of my real world depends on a felt quality.

(i.) A content is not made imaginary by mere privation and through simple failure. If you abstract from all relation to what is called my real world, you have so far not got the imaginary. Abstract truths, for instance, do not express 'real' matters of fact, but they fall elsewhere than in the realm of mere imagination. This realm is made by positive exclusion from the special world which I call real. And in a word if you desire to turn 'imaginary' into 'real,' you cannot effect this by mere addition. You require also to subtract the above exclusion, though, this subtraction being unimportant practically, has been generally ignored.

(ii.) And my real world, difference from which and exclusion by which, we have seen, is the essence—on what does that rest? It rests on a quality, on a felt content, on that of which I am aware when I say 'this myself which is now'. I experience this content when I feel the difference between the mere idea and the actuality of my present self. But it is impossible for me to bring this content wholly before me as an object. With every object I have still the difference felt between this object and my felt self. And, if this were not so, the difference and the relation between subject and object would vanish. And thus what I call my real world, the world which is made by a construction from my self, depends in the end on a content, a content not explicit but positive, not brought before me but felt. If you take away this content, and the exclusion by this content, then at one

stroke you have removed the characters of both imaginary and real. And if such a mere felt quality seems but a precarious foundation for our edifice, that is precisely the conclusion which I desire to suggest. For what I call my real world is something other than Reality. It is a construction, required for certain ends and true within limits, but beyond those limits more or less precarious, negligible, and in the end invalid.[1]

The imaginary then is made by exclusion from my real world. It rests in the last resort on a felt difference from a felt unique quality, and this, I apprehend, is a difference in content. Such a result, I admit, entails difficulties which I do not here discuss. But, if we reject it, we seem forced to conclusions which to my mind are far less tolerable. For I cannot see how things or orders of things are to be distinct, if they are not different, or what in the end can be meant by a relation which is merely external.

The difference between the real and imaginary thus rests in the end upon content. So far as you abstract from the difference, the content of both worlds is obviously the same. For many purposes the abstraction is permissible and useful, but it is not everywhere valid. And thus the doctrine of the identity in content between real and imaginary has but partial truth. When you take the instance of the Universe or again of my real self, the doctrine proves inapplicable or vicious.

We have thus been led once more to the main theme of this paper. The difference between my world of fact and my other worlds is important and necessary, but the exaggerated value we often tend to attach to it is really illusory. Its pretensions are in practice refuted incessantly by ex-

[1] It is useless to insist that my real world is real because it is the world where we all meet really through the real connexions of our real bodies. For, as was remarked above, in my dreams my own dream-body possesses its world of things and of other persons, and this order of things, while I dream, is real to myself. Nay an indefinite number of persons might, for all we know, dream a world of identical content, in which each with a difference occupied his proper place. And if you ask for the criterion by which to decide between my dreamt and my waking worlds, something more is required than a mere arbitrary choice. You are led in the end to find that the superiority of my waking world lies in its character, in the greater order and system which it possesses and effects. But, with this, the hard division has turned into a question of degree, and this question once raised will tend to carry us still further.

I may remark in passing that the real world is by some writers defined so exclusively, that that which is perceptible but to one person becomes unreal. But obviously any man might under individual conditions have an experience which would not be shared by others, and which would yet belong to the order of events in the real world of fact.

perience of other kinds. And, when we examine its theoretical claim to possess ultimate truth, we find that this is founded on arbitrariness, is built up in inconsistency, and ends in obscurity. The difference for us between real and unreal is vital. This can hardly consist in a division founded on felt quality condemned for ever to be latent, and, while seeking for another foundation, we found none which is intelligible. Hence this difference, vital for us, must be sought and be discovered elsewhere. It must depend on the internal character of those various worlds which claim our allegiance. And our impassable gulf and our hard and fast division will have to give way to degree and to differences in value.

III. I propose now to discuss briefly the meaning of play in its contrast with earnest, and to remark on the mistaken view that play is essentially concerned with the imaginary. The following pages will be found, I hope, still to be more or less concerned with our main subject, since the discussion of these topics will tend once more to break down the divisions erroneously forced into life. We shall again discover the mistakes which follow from any attempt to sunder the human world, to divide things from ideas, to identify the real with matter of fact, or to set apart somewhere by itself a superior realm of earnest.

(i.) What is play? It is activity, we may say, so far as that is felt to be unconstrained.[1] And hence the activity must in the first place be pleasant. It must be enjoyed and exercised for its own sake, and, so far as it is mere play, it must not be felt as subject to any sort of control. In play I have nothing which I do or seek because I am forced from the outside, because I am driven by desire, or because there is a valuable end which I pursue and which thus is able to dictate. Play is therefore mere amusement, and, so far as it remains mere play, it owns no master but caprice. In playing I realise myself not only apart from the compulsion of force or appetite, but as free from anything that could define and so limit and constrain me. Play is thus incompatible with foreign control, and again

[1] The reader will observe that I am not attempting to deal with the subject of play generally. Neither its origin, nor its varieties, nor its position in the whole of animal and human life can be touched on here. And again from the point of view of education I am not offering to say a word. Even if space allowed it, I am not competent to speak on the whole subject, and the reader must be referred to works such as those of Prof. Groos. I am concerned here with the sense of play, and with play as we experience it in contrast with earnest.

it is further opposed to earnest. Where you have something that is valuable and that matters, you have so far no play, or rather you have no play here except within restraint and limits. For, wherever I am in earnest, my activity is defined by an end. And, even if there is no end outside the activity, the control is still present. For where my activity is valuable, its detail is relative to the whole, and its detail is therefore more or less subordinate and subject to restraint. And, so far as I feel this, I lose the sense of mere play and caprice. Play is thus activity spontaneous and agreeable and qualified by the absence of compulsion or earnest.

It may be asked if this contrast is really inherent in the sense of play. The opposition to earnest, it may be objected, need exist nowhere except in the spectator's mind. There is natural activity which bursts forth apart from any sense of limit and restraint. Such activity we can find everywhere in the young, and we may even imagine it, if we please, as existing in a perfect mind. And here, it will be said, there is a sense of freedom and of self-assertion and of play, uncoloured by any feeling of contrast or restraint. But the above objection turns, I think, upon a question of words I fully agree that there is such a sense of spontaneous activity, but, apart from a felt contrast, I could not myself call it an experience of play. And at any rate I propose here to use the word otherwise. Where there is play, felt as play, I shall suppose the more or less remote contrast with a more or less withdrawn earnest. I shall assume the presence of a more or less specified sense of something, more or less prominent or in the background, which is felt as control or limit. Restraint, whether as what is forced on me or as what matters, I shall take therefore as a necessary element implied in play. But in what follows I shall confine myself to the consideration of play as limited not by force but by earnest.

If you ask what is earnest and what matters, then in the end it is life as a whole which matters. Every pleasant activity therefore is so far good, and all matters because and so far as it realises the main end. But on the other hand within the contents of this whole there are degrees of necessity and of importance. In general or in particular, against something that either is indispensable or that matters more, some aspect of life may be unimportant. And any aspect which thus relatively does not matter, can be felt here and now not to matter at all. Here is the province of play in its contrast with earnest. Where there is activity which as a whole or in its detail is thus relatively of no moment,

we have a limited sphere of caprice and amusement and in a word of play.

But there is no hard division in life between play and earnest, and there is in short no genuine human end which in principle excludes play. The absolute separation in life of optional and necessary, of play and work, leads essentially to error. And the error is palpable where everything except maintenance of life is identified with play. Certainly my bare subsistence is an end which may be said to come first, because everything in life is lost if there is no more living. But on the other hand a mere living which is not good itself or for the sake of something good, is neither necessary nor desirable. Work for the sake of work and practice for practice sake are in fact ends which no one apart from illusion could accept.[1]

And generally the sundering of life into spheres of work and spheres of play is indefensible. It is true that in life there are things which are everywhere necessary. There is a certain amount of physical well-being and a certain degree of mental and moral development which are fundamental. Human life is impossible except on this basis of individual and social virtue. But beyond this common basis are those special stations in social life the occupation of which is more or less a matter of choice. And lastly there are non-social modes of human self-realisation which in a sense are higher and in a sense are still more optional. They are optional in the sense that deprived of them life could be lived, and that with regard to them the individual has a right and a duty to choose. But on the other hand to treat these higher functions as mere play would be obviously absurd.[2] We have in the next place what may be called the minor graces of life, things the detail of which is more or less variable at our pleasure. And finally we end in what are called amusements. Here, where the amusement is *mere* amusement, the detail is optional. It has no value in itself but is desirable solely for the sake of its effect on human welfare.

Play may be called necessary in the sense that without play human life is not fully realised, and hence we may speak of a general duty and obligation to play. But on the other hand the obligation stops short of prescribing the

[1] What Prof. Taylor has well called "the Gospel of Drudgery" is still too much with us. But labour without joy in labour is no moral end. It is a necessity, tolerable, if at all, only for the sake of something else. And, preached as in itself a duty, it is nothing short of inhuman nonsense and cant.

[2] In connecting fine art with the play-impulse it is easy, I may remark in passing, to fall into serious error.

details, which in the main are left to our pleasure. Hence we may find here the merely optional, which we may oppose to the merely necessary, and may forget that neither of these in abstraction and by itself is a human end. In short to identify the barely necessary with that which matters and is to be taken in earnest, is in principle indefensible. You cannot in life make a hard division into separate spheres of work and play, for play in a word exists everywhere so far as I am able to play there.

I will point out briefly first how in principle every human activity admits of play, and in the next place how more or less all plays[1] in a sense are serious pursuits.

(i.) It is possible first to take a serious pursuit and to amuse myself with it. I may, that is, occupy myself with this activity just so far as it amuses me, and I may treat it as something which for me falls outside of what really matters. In comparison with other things the pursuit has no serious claim on me. I am not in earnest with it, I may do with it as I please, and in a word I may play with it. But to distinguish here between mere trifling on one side and on the other side interests, which are serious though limited, is often impossible. There are again interests with which, in the case of this or that man or of every man, no trifling is permissible. But, without attempting further explanation, it is safe to conclude that within limits it is possible and right to play at a serious pursuit. What however I here desire to insist on is this, that in principle every human activity, however serious and even sacred, admits of some play. Play is here the expression of certain conquest and of absolute mastery over detail. And this joyous aspect is wholly absent from work only where, as too often happens, the conditions are inhuman. The most serious aspects of human life admit of play in this sense. In religions, not onesided, there is an element of merry-making and sport, such as comes naturally with a sense of full security and triumph. And the morality which ignores the charm of sportive well-doing, has lost sight of the full ideal of human goodness. To trifle with a principle, to make it the sport of mere self-will, is forbidden. It is another thing to be filled with an implicit sense of relative value, and in the service of a higher principle to enjoy its triumph over the fixed detail and limits of human duties. This is a gracious element seldom absent from the highest wisdom and love.

[1] This use of the plural is adopted solely for the reader's convenience and I hope on that ground may be excused.

(ii.) There is no serious pursuit, we have seen, which in principle excludes play. And on the other hand play hardly can maintain complete severance from earnest. Mere amusements, we have seen, as general amusement are necessary for our welfare, and in most cases perhaps they are more than mere amusements. Plays may advance some social end, or may develop some individual faculty which in its effects or in itself is really valuable. They tend in other words, so far, to pass into useful performances, or into accomplishments worth having because adding to the sum of human perfection. And again from another side plays are something more than mere playing. They are subject in each case to special restraint by the rule of the game. They are limited not only by a more or less specified world of earnest, but they become in various degrees defined in themselves. And so far as in playing you must not trifle with the rule of the game, your playing has so far taken on a feature of earnest.

Plays contain usually a large element of chance and caprice, but apart from that, as plays, they keep essentially the following character. They have no individual worth, their detail in itself does not matter, and one of them has, in itself as against the others, no value at all. You are therefore, so far, free to choose amongst them at your caprice. If one of them is your best way of playing, that one has special value for you. But, on the other side, its value is generic merely, and it has worth only as a means to an end. In this point plays differ from accomplishments, which have value so far as they each contribute individually to human perfection. Plays on the other hand, so far as mere plays, have no end but a general end which falls outside of all taken individually. And where this principle is ignored, and where the rule of the game perhaps gains more than a conventional value, we are too familiar with the result. Plays are perverted into the serious pursuits of life, the moral perspective is distorted or destroyed, and the effect on life is, according to circumstances, more or less injurious or even ruinous. The above distinction however, between mere plays and accomplishments, though clear in principle is often in practice not easy to maintain.

Play is any activity in life so far as that is agreeable, is unconstrained, and is felt here and now not to matter.[1]

[1] If I play because I am compelled to play, that, so far, and while the sense of compulsion lasts, is not playing. And we must even say the same thing where I play because of a want to play. My playing, that is, to the extent to which, in general or in particular detail, it is felt to

Play is not in principle excluded, we have seen, from any aspect of life. And when we come to mere amusements which exist for the sake of playing, they tend, as we have seen, to develop a character, too often perverted, of work and earnest. There is in short no natural separation of life into spheres of necessary work and of mere play. And, when we consider these extremes, we find that, differing otherwise, they share the same essential feature. Neither has its end in itself, neither contributes, individually and in itself, a special element to human value. Each on the contrary is desirable solely for the sake of an effect, particular or general, which it produces.

The division of human existence into spheres of necessary work and of optional play leads therefore, when developed, to confusion and absurdity. The world of play turns out to be the only world which a man could seriously desire, and the world of earnest, when you examine it, proves to be that which by itself has no importance or value. Everything which possesses human interest becomes mere play, while the residue could be an end only for irrational caprice. Any such view breaks down at once when confronted with the facts of actual life. Thus a stage-play, to take that instance, is even to the spectator not mere playing, while to the actor it is the serious business of life. It is not merely the work by which he lives, but it is the main end of his being, the special function by which he at once contributes to humanity and realises himself. On the other side the necessity of living is no real necessity, unless the life, which in oneself or others it subserves, is really desirable. A mere inhuman subsistence and an empty practice are (I would repeat) things which, except through an illusion, no one could take in earnest.

Play, we have thus seen, is one aspect of life. It is, or in principle it may be, everywhere present. The division of life into spheres of work and play may be most important and even necessary, but any such division after all is not absolute but relative. If you take it otherwise it becomes an error which even practically may have bad results, and which theoretically cannot fail to be more or less injurious. It is parallel to the separation of the world into real and imaginary, matter of fact and mere ideas. And it proves, when we consider it, to be another offshoot of the same fundamental error. It will, I think, tend further to illustrate the same

be necessary to the satisfaction of a want, so far is not mere playing. But of course the detail of play is seldom felt to be thus necessary, and obviously the feeling tends, if the activity lasts, to disappear.

theme if I add some words on the supposed connexion of make-believe with play.

Play has been held to contain essentially the presence of make-believe and illusion. It has been alleged in short to depend upon a sense of the imaginary in its contrast with the real. This doctrine to my mind is in such obvious collision with plain fact, that I think it better to begin by asking how it can come to be adopted. And there is (i.) the undoubted presence of make-believe in *some* playing. This feature, having been wrongly generalised and taken as essential, is then postulated in spite of appearance as existing everywhere. We have again (ii.) the so-called imitative actions in young animals. These, or many of these, it is natural to call playing. And our minds are thus insensibly led to regard such actions as performed in imitation and with a consciousness of unreality. And (iii.) there is finally the more or less specified sense of limitation and restraint, which, we have seen, is essentially involved in playing. Hence, where the erroneous division of the world into imaginary and real is accepted, the former of these tends to be taken as that which in playing is limited by the latter. Thus we conclude that in play we essentially have a sense of the imaginary as opposed to matter of fact. We shall realise both the character and the extent of this mistake when we ask as to the nature of that restraint which, we agree, is present in play.

But it is better first to illustrate briefly the collision of the above doctrine with fact. When two young dogs are chasing one another or biting, when boys let out of school behave in much the same manner, when a man aimlessly strikes at this or that with his stick, or falls into some other trifling activity where, as we say, he has nothing to do—it seems obvious that make-believe here has no concern in the matter. And when we take part in the athletic pastimes of boyhood or manhood, and play at hockey, foot-ball or cricket, or again at such games as cards or chess—how can it be maintained seriously that illusion is present always and essentially? The opposite conclusion, to my mind at least, seems too clear for argument. When for example I play at cricket, what am I pretending to do other than the thing which I do? An outsider doubtless can insist that everywhere we have a mimic battle of this or that kind, but the mimicry surely exists only in the mind of the outsider, and for my mind, as I play, has no existence at all. And if it is objected that in play we have a sense of limit, and that the restraint must come from a sense of the real as against the imaginary, that

brings me to the point which I wish to discuss. On the one hand I agree that in play we have some sense of limit, but on the other hand I urge the absence in many cases of anything like make-believe. And I will proceed to show the real nature of that restraint which seems everywhere present in play.

In many cases of play the restraint, we may say in a word, is not theoretical but moral. Consider the natural sporting of a young dog or a child. There are certain natural activities which in themselves are pleasant. To bite, for instance, or to struggle or run is delightful. But, and here is the point, with my playfellow I must not bite beyond a limit. If I go too far and hurt my playfellow the result is unpleasant, unless indeed I am angry and want to fight and am not afraid to do so. Hence I exercise my delightful activities so as to stop short of that result. I need not be thinking of this all the time, but any approach to excess brings on what is discordant with my pleasant condition, both in my own mind and perhaps palpably outside my mind also. Such a result is felt to be incongruous, and, as soon as it is suggested, it suppresses the excess of the activity. If the reader will observe a young dog gnawing the flesh of his hand and watching him to observe if the line is at any time crossed, he will, I think realise my meaning. There is absolutely no illusion here but there is restraint, a restraint which later may be formulated as the rule of the game. On the other hand when a dog exercises his activity on a stick, the rule of the game, we may say, is simply that he is not to hurt himself.

It may be objected that so far we have not the distinction between play and earnest. But so far, I reply, I am endeavouring merely to establish the presence of restraint without illusion. I am pointing out that the limit to pleasant activity may be, in a word, not theoretical but moral. And this result still holds, I now go on to urge, where the specific sense of play is clearly present. In cricket, for example, or in cards I am obviously under restraint, while as obviously, at least to my mind, there is no trace of make-believe. Unless I am a professional or a devotee, I am aware that these activities are optional. They do not matter in themselves, and their scope is limited by that in life which really does matter. And, in the second place, to secure a better exercise of the activity, it is carried on subject to conventional restraints. I am in other words limited by the rules of the game, which exclude at once mere trifling and violence, as well as by the consciousness that, as against what is more

serious, my activity does not matter. This is the nature of the restraint which, to my mind, is both effective and obvious. Illusion and make-believe on the other hand I am unable to discern.

"But," I shall be told, "you are ignoring the play in which make-believe is obvious. A girl with her doll, a boy with a wooden sword, are plain instances which confute you. And the actor in stage-plays, you seem to forget, is called a player. And to deny here the presence of every kind of make-believe and illusion is surely irrational." But I reply that such a denial is no part of my case. All that I have been urging so far is that illusion does not belong essentially or everywhere to play. Playing on the contrary, we may now go on to see, is of various kinds. And playing of one kind undoubtedly involves make-believe. It implies within limits the treatment of the imaginary as if it were real. If you take make-believe as the playing at practical belief, as our acting within limits as if the facts here and now were qualified, as we know that in fact they are not qualified—then make-believe, it is obvious, belongs to some play. But to argue from this that, where I do *not* play at believing, I must pretend in order to play, seems clearly illogical. Whether in short, and how far, in any play there is illusion, depends in each case—that is all I urge—upon the nature of the play.

We have seen that in some play there is no pretence or illusion. The exercise of the activity involves no excursion into the imaginary world. But, as can easily be seen with children, this imaginary element soon appears, and in playing it occupies a great space, how great I need not discuss. The perceived facts here do not suffice for the required activity. They are therefore extended by imaginary qualifications, and the activity becomes possible. And at this point a new kind of restraint and limit can be observed.

All playing involves a limit, but in some plays this limit, we saw, was simply what we called moral. Beyond a certain point, that is, I must not. But where make-believe comes in; we find a new sort of control. The child that pretends in play knows that morally it must not cross a certain line. But it knows now also that it has an imaginary world, which is limited by real fact and again in some cases by conventional suppositions. A school-boy playing at soldiers knows first (*a*) that he must hurt no one too much, but he knows also (*b*) that he is a school-boy as well as a soldier. And he knows (*c*) that, so long as certain conventions are

observed, no consistency is required even in his imaginary character.[1]

The control in a word has become theoretical as well as moral. The playing dog knows, we may say, that beyond a certain point *he must not*. The playing boy knows this in all his playing, and in some cases he knows no more. But in other cases he knows also that beyond a certain point *the thing is not*. He has here a world of imagination, qualifying the real world but always subject to and restrained by that world.[2]

These two controls, the moral and theoretical, are in much play so joined and blended that to separate their several effects would be hard or impossible. In 'playing a part,' on the stage or again in real life, this intimate mingling may be observed. We have first of all the letting-go of certain activities subject to a certain moral restraint. But we have in addition the entrance, for ourselves or for others or for both, into the sphere of pretence make-believe and illusion. This entrance is limited by our consciousness of the real fact, and again by conventional rules wherever and so far as these exist. And to what extent the control is before the mind, and how far illusion actually is present, depends in every case upon the conditions and the individual.[3]

Thus pretence and make-believe do not belong to the general essence of play. They are obviously present often where there is no playing and where they are used consci-

[1] So of course *mutatis mutandis* with the girl and her doll. On the above point the reader may be referred to Prof. Sully's *Human Mind*, i., 384.

[2] I do not mean that in playing the moral or theoretical control must be kept always before my mind. As we saw before, it is enough that this control should be ready at any moment to come in, and that any suggestion of excess should at once bring it before me, or at least bring it into action.

[3] The amount of actual illusion is said, for instance, to differ widely with different actors. See Mr. Archer's well-known collection of facts in his *Masks or Faces*. Again flirting, the amatory game, is an instance where it is not easy to distinguish between the two kinds of control, theoretical and moral. The amount of illusion or pretence varies widely in various cases, and in many cases probably amounts to nothing. You may have simply the letting loose of certain sexual feelings and actions without pretence or illusion but within a certain moral limit. The beginning of this is easy to observe, for example, among dogs.

The main essence of the affair is in short not illusion but limit. That is why (as Prof. Groos rightly observes in *The Play of Man*, p. 253) we do not in the same way play at eating, for there short of the satisfaction of appetite the means are not by themselves sufficiently agreeable. But to a certain extent, I should say, we may play at eating, for instance at dessert. And children play thus habitually, I suppose because the real satisfaction is out of their power. But here of course the imaginary element comes in and is important.

ously as means to a serious end. On the other side there are many plays (we have seen) from which illusion certainly is absent. In other plays again the activity is exercised within an area more or less qualified as imaginary. Lastly there are cases where illusion and pretence are not essential, but where more or less they tend to come in. And the extent here will be determined by the individual conditions.

We have found once more that the ready-made division of our world into matter of fact and ideas, into imaginary and real, has conducted us to error. And we saw that to sunder life into separate spheres of play and earnest is indefensible. Life and the world do not admit those compartments which are blindly fixed by hasty theories. Life and the world offer us an indefinite number of aspects and distinctions, and the worth and reality of these is in every case relative, though, because relative, it may in a given case become absolute.

This is the general conclusion which, I trust, throughout this paper has been suggested as true. That world of fact, which we so confidently contrast with the imaginary and which we set up as real, has turned out, when we take it absolutely, to be false appearance. And in our practice, where we do not sink into convention or worse, we assume our right to deal freely with such reality, to treat it as of secondary moment, or even, it may be, as illusory. But in theory this illusion tends to cling to us, to hamper us and to blind us, when we endeavour to do justice to the various aspects of life. To be or do anything, we assuredly must maintain and control our bodies, and we depend on the world which is immediately continuous with these. Apart from this foundation we cannot have reality, and with this foundation we must therefore be in earnest. This is truth, and it is a truth, I agree, which must not be ignored. But on the other hand this basis and condition, if you try to take it by itself, is worthless and in the end it proves unreal. In truth it is itself a mere imaginary abstraction. The world of reality, we may say in a word, is the world of values,[1] and values are not judged absolutely but are everywhere measured by degree.

[1] I should be willing here to add "of human values," so long as "human" is not understood as "merely human". To use the term "humanity" loosely as covering at once "all finite mind" and again "merely some of the inhabitants of a certain planet," may, as a support to certain views, be found convenient or perhaps necessary. But whether such ambiguity is permissible is of course another question. In this note I find myself repeating that which in another connexion I had to urge some thirty years ago (*Ethical Studies*, pp. 305-307), and even then the matter was far from new.

II.—A STUDY OF PLATONIC TERMINOLOGY.

By G. Vailati.

Researches relating to the introduction and the changes in meaning of the technical terms of philosophy and logic present a striking contrast to analogous researches about the terminology of the physical sciences. Whereas, in the latter, the introduction of a new term, or of a new meaning for a term already in use, is generally due to the need of giving expression to some new idea or distinction, or of giving a name to some new object hitherto unknown; in the field of philosophy, on the contrary, the chief impulse to transformations of nomenclature arises from a totally different cause, *viz.*: from the inability of the terms referring to the more abstract ideas, which occur in philosophical researches, to retain for long the precise and well-defined meaning originally attributed to them, and from their tendency to become imbued with associations incompatible with the function assigned to them by those who introduced them.

That is, the majority of the changes in philosophical nomenclature are due to the need of substituting, for expressions that have become unfit to express a given idea clearly and with sufficient definiteness, other expressions in which the same idea or the same distinction is characterised in a form less apt to give rise to confusions or misunderstandings.

This is not the least important of the causes that combine to bring about the result that the contribution made by each philosopher, the advances and the improvements represented by his work, compared with that of his predecessors, are more difficult to recognise and appraise than the degree of originality of scientists properly so-called.

The historian of philosophy is far more exposed than are the historians of the sciences to the danger of mistaking for new opinions and discoveries what is only a new expression of ideas and distinctions recognised long ago, and of seeing

contrasts and differences of opinion where there are only differences in the manner of representing and characterising the same facts and the same doctrines.

This danger is, however, rendered still more serious by another circumstance, which especially concerns those modifications of technical philosophical language which aim at expressing *new* ideas or *new* distinctions.

These modifications often present themselves, in the first place, not in the form of new *terms*, but in that of new *phrases*, which, though composed of terms, each of which, in other phrases, continues to be understood in its usual sense, nevertheless assumes a different technical meaning in the phrase in question.

That the appearance of technical *phrases* of this kind should precede the introduction of technical *terms*, properly so called, is a natural consequence of the fact that the introduction of a new word, or the assignment of a new meaning to a term already in use, represents a greater divergency from ordinary usage than the attribution of a special meaning to some new combination of terms already in use, without any alteration of the meaning of these terms in any other combinations.

Among the words which lend themselves most easily to serve in this way the aims of philosophic language, appear, in the first place, as is natural, those which are called by logicians "*syncategorematic*," *i.e.* those words which, like prepositions and articles, differ from the other parts of speech, precisely in this: *viz.:* that their meaning more strictly depends on, and is more subject to vary with, the contexts in which they appear.

It is only later, and when the meaning of the phrases thus introduced is sufficiently important to render their frequent repetition inevitable, that the need arises of some "*categorematic*" term (a noun or a verb) to express in a more concise way the idea or the distinction in question, *i.e.* the need arises of having at one's disposal, for such an object, not only technical *phrases*, but also technical *terms*.

The cases in which such terms are not introduced by the same philosopher who introduced the use of the corresponding phrase, may induce the imprudent historian, who is more preoccupied with the changes in meaning of a given word than with the various expressions and the development of a given idea or distinction, to attribute the discovery of these last, not to the philosopher to whom it is really due, but to the one who characterises it for the first time by a special technical denomination.

No formal rule can better help us to avoid the danger of erroneous interpretations arising from either of these two causes than that which advises us to determine the meaning of every phrase or abstract proposition by means of the examination of the *consequences* which are involved in it, or the *applications* which are made of it, and to regard two phrases or propositions as equivalent, or as two ways of saying the same thing (Peirce), whenever they are employed, by any one who adopts them, as a means of arriving at the same particular conclusions.

The application of this criterion to the history of philosophy is only apparently inconsistent with the oft-quoted precept of Batteux that "we must never apply to the ancient philosophers the consequences of their premisses or the premisses of their conclusions".

In fact the *consequences*, referred to in our case, are not the consequences which the historian or the critic believes *can* be drawn from given affirmations of the philosophers studied by him, but the consequences which the philosophers themselves have drawn, or have shown that they believed could be drawn, from them.

An inquiry which seems to me especially adapted to serve as an example for the application of the general considerations expounded above is that which relates to the first phases of the development of that important distinction which is expressed in modern Logic by opposing the *connotation* of general terms to their *denotation*.

In those of the Platonic Dialogues in which there appears no technical term to indicate the characteristics common to the different objects designated by the same name, the problem of seeking such common characteristics is usually formulated in one or other of the following ways:—

I. By the question: *What is?* (*τί ποτέ ἐστι*), followed by the word whose signification is to be determined. *E.g. Gorgias*, 502, E; *Anterastæ*, 133, B C; *Theages*, 122, C; *Alcibiades, minor*, 138, D, etc.

II. By asking: "Why (*διὰ τί*) or to what end (*πρὸς ἄλλο τι τέλος ἀποβλέψαντες*, *Protag.*, 354, C—E) do you call the different objects in question by the same name?" In the same sense the preposition *κατά* is used, *e.g.*, (*Protag.*, 354 D C) *κατὰ τόδε ἀγαθὰ αὐτὰ καλεῖτε*; especially in the phrases: *καθ' ὅ*, *καθ' ὅσον*. Similar use is made also of the particles: *ᾗ*, *πῇ*, *ταύτῃ*, etc., the first being often used as an equivalent of *καθ' ὅσον*. In the *Protagoras πῇ* is used correlatively with *διότι*.

III. By the phrases indicating *resemblance* or *difference*, followed by the preposition *κατά* or by the dative or any of the particles mentioned above.

IV. By asking what they call by the same name *in* each of the objects in a given class, or what is that which, being *in* them, makes them be what they are. *E.g.*, in the *Laches* (192), Socrates, after examining the different cases of *ἀνδρεία* asks: *τί ὂν ἐν πᾶσι τούτοις ταὐτόν ἐστιν ;* adducing the example of the various kinds of velocity ; *τί ὃ ἐν πᾶσι ὀνομάζεις ταχυτῆτα εἶναι ;* and, similarly, in the *Hipparchus*, after speaking of good and evil gain : *τί ταὐτόν ἐν ἀμφοτέροις ὁρῶν κέρδος καλεῖς ;* 230, E.

The meaning attributed to such questions is perfectly determined by the answers which are given to them, answers which consist in *defining* (*ὁρίζειν*) the word in question. *E.g.*, in the *Hipparchus*, 230 D, to the question: "What is there in common between good and bad food?" the answer is made: *διότι ἀμφότερα ζηρὰ τροφὴ σώματός ἐστι· τοῦτο γὰρ εἶναι σιτίον ὁμολογοῖς.*

The prepositions, *διά*, *κατά* are, however, often used with the sense, as seen above, of the preposition, *ἐν*. *E.g.*, in the *Theætetus* and in the *Meno : ταὐτὸν διὰ πάντων, ταὐτὸν κατὰ πάντων.* Also the analogous use of the preposition *ἐπί* (*ταὐτὸν ἐπὶ πᾶσι*) must be kept quite distinct from the other which is seen, for instance, in the *Protagoras* and in other dialogues, comparable, in its turn, to that of the preposition *of* in the phrases: "*Of* what is such and such a word the name?" and other analogous ones expressing denotation rather than connotation. *E.g.*, in the *Charmides* (175 B) and repeatedly also in the *Sophistes* (218 G *τὸ δὲ ἔργον ἐφ' ᾧ καλοῦμεν*).

Other equivalent expressions are those in which the prepositions, *παρά*, *πρός* appear in composition with the verbs *to be, to become, e.g.*, *παραγίγνεσθαι, παρεῖναι.*

The metaphor implied in these expressions is used explicitly in the *Hippias major* (290) where beautiful things are said to be such through the *presence* of something, in the same way as great things are such by the presence *of the excess* by which they surpass smaller things.

But the above-mentioned ways of indicating the possession of a common characteristic on the part of all the objects denoted by the same name were not sufficient to enable Plato to indicate so fundamental a difference as that which subsists between such characteristics and the objects which possess them.

One of the first manifestations of the need of having special terms at his disposal for such an object appears in the use he makes of the expression *αὐτο τό*, or even simply *τό*, as in the phrase (*Hippias major*, 287 D): *οὐ τί ἐστι καλόν, ἀλλ' ὃ τί ἐστι τὸ καλόν ;* But the position occupied in the Dialogues by the search for the character, or the sum of the characteristics common to all the objects designated by a certain name, also rendered indispensable the introduction of a technical term to denote just that which was the object of the search.

It is not easy to determine what were the reasons that impelled Plato to choose for this office the term, *εἶδος*. It is, however, not the only term that is used by him for that purpose. There is even a Dialogue—the *Philebus*—in which he seems to have taken care to avoid the use of it, substituting *ἰδέα* (*ἰδέαν ἔχειν*, 127, 132, 134), *φύσις* (*φύσιν ἔχειν*, 122), *τύπος* (*τύπον ἔχειν*, 82, 113), *μοῖρα* (*μετέχειν τῆς μοίρας*, 60 B) *γένος*, *δύναμις*, etc. We even find the phrases: *φύσις τοῦ εἴδους*, *φύσις τοῦ γενοῦς* used in a sense which differs little from that expressed, conversely, in the *Republic*, by *εἶδος τῆς φυσέως*. On the other hand, the term *εἶδος* itself, besides keeping, in Plato, all the sufficiently varied meanings which it has in the ordinary language, sometimes assumes, in phrases having a technical meaning, a signification remarkably different from that indicated above. *E.g.*, in the phrase, *ἐνὶ εἴδει περιλαμβάνειν*, it seems to stand in the place of *ὄνομα* or *λόγος*. *Cf. Sophistes : ἐνὶ ὀνόματι περιλαβεῖν* (226 E), *περιειληφῆναι τῷ λόγῳ* (*ibid.*). In the fourth book of the *Republic*, courage, temperance, wisdom are often indicated as *εἴδη*, while at the same time the expressions *εἶδος τοῦ πολεμίκου*, etc., are used to indicate the different classes of society.

Both senses are combined in the phrase: *ταὐτά ἐστι ἐν ἑκάστῳ ἡμῶν εἴδη καὶ ἤθη ἅπερ ἐν τῇ πόλει*. The first of these is, however, the one that predominates. *E.g.* (*Rep.*, 434, D) after defining in what Justice consists, the conclusion is reached that: *ἐὰν ἡμῖν καὶ εἰς ἕνα ἕκαστον τῶν ἀνθρώπων τὸ εἶδος τοῦτο ὁμολογῆται καὶ ἐκεῖ δικαιοσύνην εἶναι* (*Rep.*, 434 D).

Among the passages in which the meaning which is to be attached to such expressions comes out most clearly defined are to be included those in which the importance of recognising the distinction that they express is asserted in opposition to some interlocutor who refuses or neglects to make it, or fails to understand its significance. One of the most notable is that (*Meno*, 74) in which Socrates is represented in the act

of protesting against the disposition of his interlocutor to think that, in order to answer the question: "What is ἀρετή?" it is enough to enumerate a certain number of ἀρεταί (of the man, the woman, the child, the slave, etc.). Socrates, after congratulating himself on the fact that, instead of a single thing of which he was in search, he had a swarm before him, insists, altering his question, on determining in what they agree. Resuming the examination of one of the ἀρεταί enumerated, justice, he asks if it is ἀρετή or ἡ ἀρετή (ἀρετή τίς) and, taking the example of form (σχῆμα) and its particular cases (τὸ στρόγγυλον, τὸ εὐθύ) asks: "What is it which is equally present in each one of these (τί ἐστι ταὐτὸν ἐπὶ πᾶσι 75 A) and of which the word 'form' is the name (ὃ δὴ ὀνομάζεις σχῆμα)?" A perfectly identical situation is, as is well known, reproduced in the *Theætetus* (147) when Socrates, ironically answering Theætetus, who had enumerated to him a series of particular sciences, thanks him for having supplied him with many and various things instead of that one thing for which he had asked him (ἓν αἰτηθείς) and, again repeating the question, makes it more exact by adding: "The question is not to state how many sciences there are nor to enumerate them (ἀριθμῆσαι) but to know what science is *in itself*". And the distinction is further elucidated by adducing the example of one who, being asked what mud (πηλός) is, instead of answering that it is "earth mixed with water," enumerates the various kinds of it: that used by potters, workmen in a furnace, etc.; and concludes by reproving Theætetus for taking such a long and interminable (ἀπέραντον) road when it was in his power to answer easily and briefly.

The following is a passage in which the term εἶδος is more distinctly applied to express the contrast between the meaning or connotation of a general name and the whole of the objects which the name denotes: οὐ τοῦτό σοι διεκελευόμην ἓν τι ἢ δύο με διδάξαι τῶν πολλῶν ὁσίων, ἀλλ' ἐκεῖνο αὐτὸ τὸ εἶδος ᾧ πάντα τὰ ὅσια, ὅσιά ἐστιν (*Euthyphr.* 5 D). The correspondence between the sense in which, in passages like this, the word εἴδη is understood and that which the word *property* has in modern Logic, is brought out still more clearly by the frequency of the phrases which recall precisely the image of possession: εἶδος ἔχειν (*cf. Hippias maj.*, 298 B; *Symposium*, 204 G; *Meno*, 72 G; *Rep.*, IV., etc.).

With these phrases are classed also those in which the objects are said *to share* or have part in the possession (μετέχειν, μεταλαμβάνειν) of a certain εἶδος, or to enjoy it in common (κοινωνεῖν).

It is to be noted, however, that these last suggest also at the same time another image, already applied, as was seen before also, in the use of the preposition *in*, and of the words indicating presence, *viz.* : the image of the εἴδη as ingredients or elements taking part in the composition of single objects and in the determination of those resemblances among them which justify their being called by the same name.

No less important than this metaphor of participation (μέθεξις) is the other of imitation (μίμησις) according to which the εἴδη are described as *models* and all things, on the other hand, as copies (ὁμοιώματα) of them.

A sample of a discussion of the difficulties connected with a too literal and material interpretation of both these metaphors is afforded us in the *Parmenides*, where Socrates tries to evade them by having recourse to other comparisons, *e.g.*, that of a *sail* spread over the heads of a group of people, or of the *day*, which is the same in different places, which comparisons are ably utilised by Parmenides for the deducing of more and more absurd conclusions, as confutations of the theory.

One striking point in this discussion is that in which Socrates explicitly declares that, by speaking of the *participation* of things in the εἴδη, his fundamental meaning is to express merely a resemblance between the εἴδη and the things corresponding to them. With which declaration it is useful to compare the well-known observation of Aristotle (*Metaph.*, I, 6) in which, comparing the Platonic theory of the εἴδη with the views of the Pythagoreans, he describes the former as consisting only in the mere substitution of one word for another (Πλάτων τοὔνομα μεταβαλών).

In contrast with other material objects, visible and tangible (ὁρώμενα καὶ μεταχειριζόμενα), the εἴδη are described as accessible only to the mind (διάνοια) and the reason (λόγος, λογισμός) (*Rep.*, vi., 134 A, 135 E).

The position taken up by Plato when dealing with those who for such a reason refused to admit that the εἴδη were *something*, is represented in the clearest manner in the *Sophistes*, where the *stranger*, after laying stress on the necessity of exactly defining what must be understood by *existing* (τί ποθ' οἱ λέγοντες αὐτὸ [τὸ ὄν] δηλοῦν ἡγοῦνται—τί ποτε βούλεσθε σημαίνειν ὁπόταν ὂν φθεγγεσθε, *Soph.*, 244 A) brings forward, poetically comparing their opposition to the struggle of the Titans against the Gods (γιγαντομαχία), on the one side those for whom what exists is only what can be grasped and seen, and on the other those who affirm and

strive (*βιαζόμενοι*) to establish the existence of incorporeal things, only to be apprehended by thought. Both parties, *i.e.*, both those who refuse to describe as *existing* what they cannot touch and press with their hands (*ταῖς χερσὶ πιέζειν*) and the others whom he describes as the friends of the ideas (*τῶν εἰδων φίλοι*) are induced to admit that everything *exists* which has any capacity (*δύναμις*) for acting and suffering actions (*ποιεῖν ἢ παθεῖν*) in however small a degree (*καὶ σμικρότατον*) and *even only for once* (*καὶ εἰ μόνον εἰς ἅπαξ*, *Soph.*, 247, E).

But Plato is not contented with concluding that the *εἴδη* exist (*εἶναι τί*). They are for him something even more truly existing (*ἀληθῶς ὄν*) than material things, something superior to them in value and power (*πρέσβει καὶ δυνάμει ὑπερέχοντα*, *Rep.*). The argument by which he most frequently supports his assertion consists in saying that it is by the *εἴδη*, by their presence or by resemblance to them, that material things themselves exist and *are what they are.*

A comparison of this phrase with the others in which the capacity of beholding the *εἴδη* is described as a necessary condition of being able to reply to questions of the type: *What is such a thing?* and of deciding whether an object deserves or not to be called by a given name (*Euthyphr.*, 6 E., *εἰς ἐκείνην ἀποβλέπων καὶ χρώμενος αὐτῇ παραδείγματι ὃ μὲν τοιοῦτον ἄν ᾖ φῶ ὅσιον εἶναι ὃ δ'ἂν μὴ τοιοῦτον μὴ φῶ*; *cf.* also *Meno*, 72 G) suffices to convince us of the perfect correspondence of the sense attributed by Plato to the word *εἴδη* with that which the word *οὐσία* assumes in Aristotle, and also with that now expressed by the words *meaning* or *connotation.*

The very observations which have been made on that phrase of Porphyry (*Isag.*, c. iii.) in which the *essential* properties of a given thing are defined as those with the cessation of which it would cease to be what it is, may in fact be applied here also, inasmuch as to say that it is by the presence of a given *εἶδος* or by resemblance to it that a given thing is, or continues to be, what it is, is not fundamentally different from saying that it is on account of such presence or resemblance that we call it by *its own* name and that we should cease to call it so if such presence or resemblance ceased or were shown to be illusory.

It seems to me indispensable to keep in mind the consideration mentioned above in order to recognise the meaning and force of the phrases in which the *εἴδη* are described as not subject to change and alteration (*μεταβολὴν ἡντινοῦν οὐκ ἐνδεχόμενα—ἀλλοίωσιν οὐδεμίαν ἐνδεχόμενα*, *Phædo*, 78); as

always equal to themselves (*ὡσαύτως ἀεὶ ἔχοντα κατὰ ταὐτά—ἀεὶ κατὰ ταὐτὰ ὄντα, ibid.*); as *pure* (*καθαρά, ἀμικτά*) in contrast to sensations which are *confused*, *mixed*, or *unstable*, *transient* (*ῥέοντες*), *imperfect* (*ἐνδεέστεροι*), incapable of perfectly resembling the *εἴδη* corresponding to them (*οὐ δυνάται τοιοῦτον εἶναι οἷον ἐκεῖνο—προθυμεῖται πάντα ταῦτα εἶναι οἷον ἐκεῖνο, Phædo*, 74).

One of the most suggestive examples used by Plato to illustrate the contrast mentioned above is that which consists in contrasting *the equal in itself* (*τὸ ἴσον*) with *equal* things (*τὰ ἴσα*) which are always imperfectly so and always apt to cease to be so. It is difficult to find another that could serve better than this to illustrate the assertion, expressed by Aristotle (*Metaphys.*, xii., 4) that the first motive of the introduction of the *εἴδη* was the need of finding a defence or a point of support against the destructive tendencies of those philosophical theories, which, by insisting on the continual mutability and *corruptibility* of material things, seemed to remove every basis for any formal doctrine and to distrust any distinction whatever between vulgar opinions (*δόξαι*) and scientific knowledge (*ἐπιστήμη*) represented at that time especially by the mathematical sciences.

On this point it may be said that the theory of Ideas fulfilled to a certain extent the same office for these latter sciences as is now fulfilled for the physical and mechanical sciences by the so-called *law of causality*, inasmuch as this law also consists precisely in anticipating and imagining as existing among phenomena regularities and uniformities greater than, and surpassing, those which superficial observation could have made to appear possible.

The characteristics of invariableness, purity, and precision which, as we have seen, were attributed by Plato to the *εἴδη*, do not, in fact, differ from those which are attributed by modern logicians to *natural laws* as contrasted with merely *empirical* generalisations. There are passages in which Plato speaks of the analysis of, and search for the *εἴδη*, in terms which might be adopted, without any change, to describe the tracing of the single causes or laws which co-operate or combine in the production of a complex effect.

When the Platonic theory is divested of the ethical and æsthetic implications which, to a certain extent, constitute an accessory characteristic of it, it manifests itself as an energetic assertion of the right of the scientist or the philosopher to form or construct a more regular, simpler, more perfect world, than the one whose existence the data furnished by the senses and the inductions based on these data, would, by themselves, lead one to admit.

That is, it manifests itself as an assertion of the heuristic efficacy of that process of inquiry, which, taking as a starting point, idealistic and simplifying concepts and hypotheses, not having any exact counterpart in what is called the *reality of things*, arrives, precisely by means of deductions from these, and by means of what have been recently called (Mach) "experiments in thought" (*Gedankenexperimente*) at analysing, comprehending, dominating this reality and discovering in it and under it, independently of recourse to direct experiment, regularity, laws, standards, which direct and passive observation would never have been able to reveal.

So understood the theory of ideas appears more intimately connected than would be generally admitted with the other great innovation in method attributed to Plato, *viz.* : the employment of deductive reasoning in the choice and the rejection of the various hypothetical alternatives which present themselves as possible with regard to a given subject.

Plato found an example of the efficacy of both these processes together in Astronomy, understanding that term, as the Greeks always understood it, to mean the science that aimed at explaining and *reducing to order* (*συγκοσμεῖν*, to use the word employed by Aristotle (*De Cœlo*, ii., 13), almost in jest, against the Pythagoreans) the irregularities and anomalies of the apparent motions of the stars on the celestial sphere, making them result as consequences of certain hypotheses with regard to their real motions in space.

It is in these first applications of mathematical doctrines to the explanation and prevision of the phenomena of the physical world, that Plato found the most convincing proof and confirmation of the power that the human mind is capable of acquiring by means of the logical discipline by which it is enabled, to use the phrase of Timæus reported by Proclus (in *Eucl.* i.), to recognise as connected and akin things apparently most diverse and opposite (*φίλα τὰ μαχόμενα καὶ συμπαθῆ καὶ προσήγορα τὰ διεστῶτα*, *Prologus*, i., 22) *i.e.*, to trace, in the chaos of the facts which present themselves to observation and experiment, the invariable laws to which these facts conform.

Of the position in which Plato maintained that the philosopher and the scientist stood in this respect, he gives us a symbolical representation in the famous image of the cave and the bound prisoners in it who were obliged to look only at the shadows projected on a wall by objects passing behind their backs.

It is to this very situation that the sentences refer, in which

the study of geometry is described as having an *elevating* (ὀλκὸν ψυχῆς) and *purifying* force; as capable of rekindling that organ of the soul, which, stained and blinded by all sorts of occupations, is more precious and worthy of being cared for and protected than ten thousand eyes. (ὄργανόν τι ψυχῆς ἐκκαθαίρεταί τε καὶ ἀναζωπυρεῖται, ἀπολλύμενον καὶ τυφλούμενον ὑπὸ τῶν ἄλλων ἐπιτηδευμάτων, κρεῖττον ὂν σωθῆναι μυρίων ὀμμάτων, *Rep.*, 527.)

No less intimately connected with the subject of the meaning of general terms is the use which Plato makes of the word εἴδη in the phrase: κατ' εἴδη διαιρεῖν, and other analogous phrases which appear chiefly in the Dialogues which are considered to be the later ones.

It is not always easy to decide when, in such phrases and analogous ones, the word εἴδη is to be understood in the usual sense of "class," like γένος, μέρος, and when, on the other hand, in the sense of character, as it seems, for instance, that it must be understood in the *Cratylus* (424 G).

Such an ambiguity is rendered still more serious by the fact that the preposition κατά may be interpreted at the same time as equivalent to the Latin *in* (*e.g.*, in the phrase: *dividere in partes*) or to the Latin *secundum*, in the sense of "according to".

In the *Phædrus*, the proceeding of one who divides (ὁριζόμενος) is represented as correlative with, and complementary to, the other which consists in uniting under one and the same concept facts or objects apparently different, and both are described as contributing equally to constitute the true art of discussing (διαλεκτική) (*Phædr.*, 265 D).

The same distinction is also referred to in the passage in *Rep.*, vi. in which those who are capable of *dividing* κατ' εἴδη are contrasted with those who, being incapable of emancipating themselves from verbal suggestions (κατὰ τὸ ὄνομα διώκοντες), are more disposed to litigate than to argue (ἔριδι οὐ διαλέκτῳ χρώμενοι), *Rep.*, vi., 454 A, B. Similarly, in the *Politicus*, the method of dividing *by species* (κατ' εἴδη διαιρεῖν) is described as the best calculated to render people capable of inquiry and discussion.

Such a method is there (263) described still more precisely by the citation of examples of cases which do not conform to it, among the rest that of the division of men into Greeks and Barbarians, to which Plato objects as being based on ignorance of the fact that the nations included under the single denomination (μιᾷ κλήσει) of Barbarians differ less from one another in language and race than the Greeks from each of

them. Similar remarks are repeated with regard to other divisions, *e.g.*, that of animals into two classes, one including men, and the other all other animals, as if the latter became a class solely by the fact that there is at our disposal a single word ("beasts," *θηρία*) to denote them all. With the same right, he adds, any other animal, *e.g.*, the cranes, if they were to occupy themselves with classifications, might divide animals into two classes, one including themselves, and the other all the rest, not excluding men.

No less suggestive is the other example of defective division, which is also adduced by Plato, *viz.*: that of the man who should divide numbers into two classes, one composed of those under, *e.g.*, ten thousand, and the other including all the others. By citing in contrast to this the other division of numbers into even and uneven, or of human beings into men and women, he seems to wish to indicate, as by the phrase: *dividere κατ' εἴδη*, still more than divisions according to certain properties, he means divisions according to qualities which are *important* because of their consequences. Inability to divide *κατ' εἴδη* is compared in the *Phædrus* to the inability of the bad cook who does not know how to cut meat without breaking bones.

From the point of view of terminology, that passage of the *Politicus* is important in which a difference of meaning is established between *εἶδος* and *μέρος*, by assigning to the term *μέρος* the office of denoting more particularly the classes which do not satisfy the requirements of the *διαίρεσις κατ' εἴδη*. This difference is defined still more precisely by saying that every *εἶδος* gives rise to a *μέρος* but not every *μέρος* to an *εἶδος*. And moreover allusion is made to it in the phrase: *τὸ μέρος ἅμα εἶδος ἐχέτω* (*Politicus*, 262 B), by which he prescribes that every class ought to be determined by the presence of some characteristic common to all the objects that belong to it, and to them alone. In the *Politicus* as well as in the *Republic*, the words *μέρη*, *μορία*, are used to denote the various individual qualities which contribute to constitute one complex quality, *e.g.* (*Politic.*, 290 G) mention is made of *διακόνου τέχνης μορία*, and hence they assume a meaning which is very nearly akin to that which is attributed to them when they are used in speaking of *parts* of the connotation of a term.

The image of the general characteristics as *constituent parts* or *ingredients* of the objects and concrete facts (*πράγματα*), already implied, as we have seen, in the phrases expressing participation, is brought still more clearly into relief by the comparison to which Plato often has recourse (*Theætetus*,

Politicus), like Galileo, and Huyghens in later times, of scientific inquiry, to the efforts of one who is learning to read or to decipher a writing.

In connexion with this comparison, the εἴδη are described as the elements (στοιχεῖα) which, by their transposition (μετατιθεμέναι) and combination (συμμίγνυσθαι) give rise to those more complex groups (συλλαβαί, συμπλοκαί) which are concrete facts (*Politic.*, 278, B, C; *Sophistes*, 253).

In this Plato is pretty near to conceiving the analogy between the relation of a whole to its parts and the relation that subsists, on the other hand, among the characters of a species and those corresponding to the different genera to which it belongs; an analogy expressed by Aristotle so clearly and explicitly in the fourth book of the *Metaphysics*, when he says that the name of *parts* may be given as well to the various classes into which a genus is divided as to the single characters that compose the definition of a species (ἔτι τὰ ἐν τῷ λόγῳ τῷ δηλοῦντι ἕκαστον καὶ ταῦτα μορία τοῦ ὅλου), and that, in the first sense, the species is a *part* of the genus, in the second, the genus is a part of the species: διὸ τὸ γένος τοῦ εἴδους καὶ μέρος λέγεται, ἄλλως δὲ τὸ εἶδος τοῦ γένους μέρος (*Metaphys.*, iv., 23).

III.—THE CONSTITUTION OF THOUGHT.

By Dr. Hubert Foston.

When we see how refined and apparently remote are those abstractions which our present science can use in the explanation of the concrete activities of objects, we may be constrained to confess that if intellection, as advancing to general thought, was ever supposed to have surrendered *pied à terre* in the sensible order of things, to explore a detached and ethereal world of its own, the abandonment was but seeming. We may feel that the achievements of applied science in our own day have furnished us with such a demonstration of a quite domestically mundane objectivity in thought as was undreamt of in the loftily leisured philosophies of antiquity.

But if I touch on the working-day triumphs of thought, it is not in order to claim them for a mental functioning differentiated quite as psychology has persistently declared general thinking to be. So long as the theory of thought shall give chief prominence to a merely isolating abstraction, and a fruitlessly self-containing generalisation, we shall come short of an adequate explanation of the control which we obtain of what we may call the practical *significances of objects*—taking an "object" merely as a presentation, and by its "significance" meaning now no more than that of which it is found in experience to be the signal, the anticipatory "sign".[1]

[1] The *anticipatory* sign: for it may need to be somewhat carefully observed that with the closely related, perhaps more common, scientifically more complex, *a posteriori* meaning of the word, according to which an effect, for instance, is interpreted to be the (retrospective) "sign."—perhaps *post-mortem*—of its cause, we have not primarily to do. Our outlook is forwards. If a certain sound is a sign of a bell being rung, it is so as a portion of the evidence on the ground of which we can constructively proceed *forward*, from an assumed movement of the bell, to the sound again, and possibly to various probabilities of which the movement might be an initial sign. It is this forward look which is the matter of concern for our experience, and which lends motive and guidance to the retrospective view.

I.

Significance Governs Abstraction and Generalisation.

An object or objective phase when interpreted as an anticipatory sign of some other has, of course, a mediate function —the ground of its interest lying outside its individually bounded self. How deeply a mediating function is rooted in the character of presentations generally, may be suggested by pointing out that the main intellective function subsisting with low forms of organism will presumably be determined by natural selection to be that of taking cognisance of objects that stand to the organism in a relation—positive or contrary—of utility. I mean that it is according as things should be *used*, treated to some further effect, that it becomes organically profitable and intellectually economical to notice them. And, so far,[1] the evolutional *raison d'être* of presentations lies not just in what *they* at the moment psychically are, but in what may biologically or psychically come to be in consequence of their being presented. And we may say this : that the selected forms of presentation which constitute the objects of mental recognition in a low form of mind, will thus owe much of their force to a mediate importance, which a more developed intelligence, with sufficient comprehension of facts and sequences to interpret presentations as signs, might subjectively apprehend as their matter of augury—their significance.

Now if, under the assumed cover of a philosophic warrant —of the call for which I am not oblivious, while not regardless of the space it would require for discussion—we venture to regard an object presented to some all-but-vegetal percipient as being in some sense the same object which displays such comparatively large psychical possibilities in my own favoured cognition of it, we may further say that the lower mental experience is determined to a relatively poor *abstract* of the otherwise proved psychical possibilities of the object ; and that the measure of this abstract formation is determined by the slight and simple use that can be made of the object by the organism. In other words, a kind of *a priori* abstraction, arbitrarily ruling down the very percepts to those "generalised" forms of ideation which psychology now admits to be characteristic of low forms of mind, is here conditioned by the mediate importance of objects to the organism.

Quite similarly, I conceive, the higher abstract view of

[1] Room has to be left for the possible affecting of the course of mental evolution by the fact of individual feeling.

objects is a corollary of their reflected mediate interest—depending on their semiotic function. I should exhibit the rationale of abstraction by saying that in order to avail myself pointedly of one object or objective phase as the undistracted and distinct sign of another, I must somehow be enabled to regard it specially *in so far* as it is such a sign. This must be, not now under the elementary conditions of an experience that is, as it were *a priori*, narrowly selective, but in full face of the unconcealed totality of the qualities of an object as presented to the advanced and expanded form of mind.

Let attention be determined to some one of the perhaps very various and conflicting associated portentive suggestions of the presented totality—determined to it by its possibly still further mediately conferred interest. There may thus forthwith be brought into play that capacity for reinforcing an image into effective competition with even perceptual forces, which is perhaps distinctive of the human mind, wherein, as we shall see, it subserves the function of reason. Then—let the *embarras de richesse* of qualities and nascent suggestivenesses[1] have been what it may—I am, so to speak, associatively looking on one clear, determined line *through* the object; and herein, looking through but not overlooking, have achieved abstraction. A secret, for example, of the abstract regarding of an object as "fusible" is the controlling maintenance of an image of it as in a fluid state, with some more or less definite connective consciousness of phenomena which by experience are found likely to be intermediate between the actual solid and fluid states.[2]

But if, neglecting whatever individualising aspects and claims on notice an object might otherwise have for me, I so yield to the associated *goal* of interest as to make it for my mind merely an object that can be used in some particular way to a certain effect, or an object that is a sign of such and such an oncoming eventuality, then it and all objects, so far forth as this one mentally selected interest attaches to them, are appealing to me in the name of a

[1] Each of which might have its proper moment for development.

[2] The relatively direct and definite *practical* line of reference here, approximating the instance to what may reasonably be deemed the primitive type, lays it open to elementary treatment. Were we to go further, and attempt to explain any well-developed abstract regarding of an object in its "fluidity"—not necessarily implied, it may be agreed, in the largely concrete abstraction-guiding image of a fluid object assumed above—we should require assistance from the principles of sections iii. and iv. which are concerned with the arrest and suspense of the determination of significance.

unitary mediate import.[1] And the aspect, of each of them, on which is based the capacity for this appeal, is to me so far one aspect wherever it appears.

Actual abstraction and generalisation and their prototypes are thus alike to be understood as governed by the presence of a controlling ulterior goal, which for the higher intellection is set in the revealing light of consciousness as an ulterior goal of interest—a significance, in fact.

For the lower forms of mind, the like bearing of certain qualities of many individual objects on vital exigencies may, through the "rough surgery" of natural selection, simply force on and fix the generalised noticings of them while the ulterior ground and cause of the generalisations lies itself entirely outside mental cognizance. In the advanced mind, the unitary suggestiveness for the sake of which certain objects are attended to is itself known. It can even be held up for the sake of a further recognised suggestiveness—while that is held up for the sake of yet another—in the plexus of thought. And by selective attention to governing images, an object's mode of thus contingently emphasised suggestiveness can be controlled and changed.

If, then, we find in mind some general forms of ideation, each having reference to an indefinite group of presentations which resemble each other in some respect, these forms at their lowest appear secretly to owe their constitution and moulding in mind to a controlling—possibly biologic rather than psychical—import beyond the mere cue of similarity: and the distinguishing characteristic of their higher forms in a reasoning mind is that the controlling significance is at last within the widened range of view, and carries on its governance by an actual mental process.

II.

Significance Proves Conditional.

Significance, thus secondarily involving abstract views, and therefore views at least potentially general, with reference to objects[2] stands out as the nerve of the organic constitution of thought.

And yet it is not the bare fact of a presentation being so far effective by way of sign as to give rise to some image believed

[1] From which, by the way, the objects may get one of their general names.

[2] "Abstract" and "generalised" presentative views *of* objects constitute the lower ideation: abstracted and general views *upon* the presentations are characteristic of the higher.

in as representative of the perceptual sequent of the presentation that can constitute it an object in what we ought to call thought. Given that a certain phenomenon were a regular sign of another; given that in every case of finding the one I invariably found the other, I might indeed usefully, and as it were automatically, *generalise*. But had I lived in a world constructed throughout on such simple principles, I do not see how I should ever have found occasion for *thought*. An existing richer process requires that name.

Functioning in the way of thinking comes into play—so I hold—on the ground that a connexion which I have learned to look for holds sometimes, and fails sometimes: so that a particular phenomenon is now found to have a certain significance, and now has it not, and—this is the completion of the present statement of the ground—*I can find a regular distinction* between the circumstances in which the phenomenon is a sign, and the circumstances in which it is not a sign, of that particular significance. And whenever any creature not merely has its attitude of self-adjustment altered according as the usual suggester of the adjustment has or has not a certain accompaniment in perception, but rather singles out definitely a particular complication of some phenomenon as the *condition* of its having a particular given objective significance, then it thinks. The thinking may be very wide of the mark: but if the mind can raise the correlative questions, "why?" and "why not?" and fix on some conjunction of events or qualities as affording the (however mistaken) answer—if, in short, it undertakes the business of *assigning conditions for some particular significance for an object* —then, according to the view of the essentials of thought here propounded, it thinks.[1]

[1] It would be impossible, so far as I see, to sift out from observations of animals evidence that—however much they suffer their conduct to be modified by modifications of signs—they are ever able to raise that question of "why?" or to assign the conditions of a particular significance for a phenomenon. If they do so sporadically, they surely do not do so very consecutively. Rather than extravagantly supposing genuinely consecutive systematic explanation to be dominant in their mental life, we should believe that the relative dominance of consecutively explanatory modes of intellection went far into the accounting for the peculiar acceleration of man's advance beyond what appears in animal communities. And in view of the characteristic active persistency of that principle of "why?"—a quasi self-determinant persistency of which we have tokens to some degree in the perplexingly regressive inquiries of children, and more powerful evidences in the staunch pursuances of science—we can hardly take thought to be sufficiently established to give the right to the title of "thinking being," where we cannot suppose this principle to be sufficiently established to assert its characteristic function in the way of consecution.

On this view, customariness, whether in regard to co-existence or sequence, may be a ground of expectation, possibly intense expectation, without being a ground of rational thought, simply because it can never suggest the task of assigning the conditions of a phenomenon having, as against its not having, a given objective—that is, prospective presentative—significance.

Mere customariness rejected, will it seem strange, in view of what has taken place in the history of philosophy, that we should yet adduce a principle of causality, in a bare and unambitious empirical sense, as the ground of the possibility of the effective assigning of such significances?

If Hume be right, if an empirical view of causality compasses nothing wider and more intensive than is embraced in some customary succession in experience, we give up the case.

We will go further, and say that if we had come upon the antecedent upon which a phenomenon is, in the language of John Stuart Mill, "invariably and unconditionally consequent,"[1] we should have found ourselves reduced by such unconditionality to mere anticipation—had there been time for it—without thinking: because there was nothing left to think about. To attempt to give any reason for the succession as reduced to a perfectly *un*conditional succession is, by the very terms of the case, an unwarrantable interpolation.

But Mill speaks not merely of an antecedent, but of a "concurrence of antecedents," which introduces a very critical ambiguity. For if *conjunctions* in their immediate freshness be, as they seem, the founts of causal change,[2] we may assign the fact of the concurrence as a condition of any or each part of the group having causal relation to the phenomenon; and so far, indeed, we can bring thought to bear upon the case. But this is not bringing thought to bear upon it so far as the sequence is regarded as unconditional—the concurrence itself being interpolated as a condition.

Unconditional succession, if we could ever be sure we had found it, is a matter for effective association, not directly for thinking: and on the possibility of viewing causation as a

[1] *Logic*, bk. iii., ch. v., § 6.

[2] That any appreciably pre-constituted individual object or group should *in its isolation* be the cause of an effect arising at any time is at least inconceivable, whether that proves anything or not. Were it the sole constituent of the cause, it would seem that the effect must have existed as long as *it* has existed, leaving us no means of establishing it as the cause.

matter of *conditional* succession depends, I believe, the existence of thought about the world.

If, then, thought arises as the profitably sure assigning of the conditions of some objective significance for a presentation, it is not the principle of causation either as one of mere customary succession, or as one of unconditional succession, that is involved in its establishing. A wakeful rational confidence in a sure system of successions springs up rather because, in cases where there does occur difference between the issues of antecedent groups assumed to be like, we can so constantly find, after all, an antecedent differentia[1]—and this more and more as we are led to go about our inquiry with persistence and nicety. We are led further and further into the ranges behind ranges of such inquiry by the observation, not of mere constancies which would hardly so much as dully confirm our expectations; but of more and more subtle apparent inconstancies, which at first disappoint them, but which prove clues to the discernment of a relative constancy of determination on once unsuspected conditions. And the inquiry, ever deepening, ever expanding, penetrating now with innumerable thread-like rootlets into the finest interstices of a far-spreading area, sustains at last our vigorous growth of confidence in the system of happenings as something which is more and more surely and profoundly to be "accounted for". Thus there has arisen a general expectation, growing in weight, widening in consistent application—not merely, as Hume seems to have fancied, that events will continue to happen according to already observed constancies—but that every inconstancy (as it appears to pre-conception), will, when inquired into, yield us the knowledge of some more delicately contingent constancies.

The presence of the new differentiæ learnt can be assigned (subject to correction, as we shall see in a moment) as the condition of the phenomenon as we at first knew it more surely having the significance we supposed. The absence of them is thereby assigned as a contributory condition for a negative significance. And should this negative significance in turn be found inconstant, we may be able to observe the intrusion of totally fresh differentiæ—in the absence, however,

[1] Primitive instances of such finding may occur through the uncertain working of an instrument chosen or fashioned for a purpose—the purpose stimulating and defining the effort to remedy the uncertainty. Perhaps even to-day the average man's sense of precise causality is sharper, the impulse to seek a differential ground of accidental variants keener, in regard to machinery, than in regard to free objects in nature. *Cf.* following section.

of which the systematic thinker reflects doubt upon his whole process: and he begins again with some other way of assigning the initial differentiæ. Thus gradually drawing in our circlings and hoverings more to its own lines, the "world" —as we name the gradually evident system—becomes to us more and more simply trustworthy. The directions of its significances are assured to us through the assigning (under persistent regulation by the pressure of the presentative order) of conditions—through Thought.

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The question of cause is here seen rising, as I suspect it does rise, in the cleft between cases of succession which are so far similar as to antecedents that similar expectations are generated, but which diverge in their issues. If the pertinent question is disguised in the outwardly absolute and discontinuous form, "What is *the cause* of this class of phenomena? and of this? and of this?" its substance is more truly expressed in the forms—ever modestly limited by the *contrasts* of experience—"Why is it that A, so often followed by B, is not now followed by it?" or "Why should A be followed by B at other times *rather than now?*"[1] For who practically makes of the human intellect—scientific or other—the extravagant demand that it should face the sheer stupendous task of collecting the group of antecedents—widening out into a guard of essential favouring conditions lying about us in every direction to the depth of a radius of a whole universe for aught we can know—on which an event will invariably and unconditionally follow? From day to day, from century to century, our movement is to go on defining the special phenomenal conditions of any class of events just so far (we can reach no farther), and in such ways, as the variations of our situations, accidental or purposely induced, have enabled us to define them. And it were hard if knowledge might not thus begin to be science, and progressively deeper science—though without the slightest prospect that it should ever be entirely complete *de profundis* in respect of one single instance of causation.

[1] Radium has attracted immense curiosity—through the hitherto customary fulfilment of those relatively commonplace expectations with which it startlingly conflicts. And is the attempt to formulate a reason for the attendance of remarkable phenomena of radio-activity upon certain presentations made *outside and beyond* the measure of that contrast which they and other objects mutually afford?

III.

Practical Control of Conditional Significance.

It is not only in his highly developed artifice of language that man shows the outward token of some critical psychical difference between himself and the animals. Most impressive, surely, is that appearance, already alluded to, upon the basis of the natural world, of an artificial world, which has been established, and is maintained, through thought working in dependence upon the system of conditioning manifest in the former. And I would suggest that the purpose and work of gradually shaping an imaginatively given unpresented feature in a rough piece of matter might well be important in developing a tendency to abstract in the sense according to which we have described abstraction. Such an exercise seems just what is required for the initiation of mind into the method required for thought—abstraction amidst all the suggestions of comparatively definite and multitudinous perception. It may be noted that, as against the perhaps not very intelligible process provided for by Nominalism, of emphasising certain features in relation to a name somehow attached to them, this is abstraction with a mediate intent, so far as the quality is for some desired and anticipated use.

Let it now be added, that without developed proneness to intelligent reflexion upon what is being done in accordance with tribal and traditional routine, the primitive artificer, bent upon his continuously formative task, may yet let his mind run over the various possible uses of what he is thus distinctively evolving—may fancy for his handiwork, as imaginatively completed, a variety of significances according to conditioning circumstances, also mentally constructed. He is thus unwittingly giving to his presentations and images a function of essentially relatively determinable, or conditioned, signification. Moreover, he may produce, not a weapon or an instrument for immediate use, but the tool that shall shape the tool—nay, the various forms of tool. This having a determinable, but for the moment suspended or *arrested*, significance with reference to what it shall help to produce, and the mass of what it shall produce having a yet further widely variable significance with reference to what the different items of its content shall each variously do, there is before him, if his mind would take advantage of it, the suggestion of significance, the determination of which is arrested for variously conditioned redirection from point to

point through a series of terms. And as the system of production expands, the time will come when the dull, quasi-instinctive procedure, the constant, uninquiring following of habit, with occasional meetings of special incidental occurrences with flashes of analytic insight, will serve no longer. Man will be forced to think more constantly and consecutively by the very progress of the works of his own hands. The arrested significance which he is giving to the forms he fashions only for the sake of other forms will at last have to be distinctly apprehended—and language may help him to apprehend it. He will have to give the determinative bearing of one class of *physical abstractions*, if we may so call them, that he has fashioned, upon other classes, a distinct and controlled recognition in his mind. He must deal with things more and more definitely as having a mediate and conditional significance. So his creations become the awakeners of his ideas to new power: that into which he has put something of his own mind calls him to think.

Thought is here supposed to be applied to objects and their behaviour always under natural conditions, whatever elements of manipulation may enter in. Such application can hardly be supposed to proceed very far before being accompanied by a similar application to processes under natural conditions with no actual element of manipulation entering in—though not, perhaps, without some gradually refined consciousness resembling that which goes with manipulation. And here the instrument of assertive speech, immeasurably more subtle, penetrative, and comprehensive in its operations than the fashioning hands, may begin to hasten forward[1] distinctly to take the lead as the means of the development of thought.

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I am disposed to believe that man's more peculiar use of language may be regarded as an extension of what he does in making. A certain *assertive*[2] element—foreign, I suppose, to "animal language"—is an important psychical characteristic of the utterance of a statement. And this I would trace to the mastery of things as a maker being representatively carried out to regions where such mastery is not at the moment in operation, and may be impossible. Doing may underlie saying: the actual arranging may lend substance

[1] I am not assuming that no unthinking sort of speech exists at all before tools.

[2] I use the word with a tinge of its vigorous ordinary modern sense.

and animation to the ideal arranging of the λόγος, the intelligent speech.

IV.

Disguised Ideal Control of Conditional Significance.

The general name, viewed out of relation to its possible attributive or predicative contexts, may strikingly imply a determination, in some yet widely indefinite direction perhaps, of the idea of the significance of the objects of which it is a name. For it marks off a certain limit of considered capacity in the object. But it is of special importance to observe that it also involves an *arrest* of such determination—so far as it leaves it to various possible, but now unformed, verbal conjunctions to reflect possible determinations of the object's capacity into more and more definite channels. For example the name "fluid" applied to an object only very indefinitely suggests what the object may ultimately do for me, and mean in my life: still less does it determine in what special manner the object is to be expected[1] at any time to realise some one or other of those possible functions the ideas of which cluster about the name "fluid". These ideas of possible functions, issues, significances, cluster about it in mutual suppression. They make it a centre of suspended associative suggestion for them all. They thus have shares, perhaps variously distant and subtle, in constituting its *raison d'être*, its ground of serviceableness; though every one of them, rising from the midst of multitudinous latency as occasions severally hale them forth from their conspiracy of mutual suppression, can easily conceal *its* share—and thus give rise to what I consider the inadequate view of the concept in which significances are forgotten. The significances, then, by help of association with a name, are indeterminately held arrested in suspense as more or less sub-consciously recognised possibilities. And it wants now that other suggestive words, which likewise in their isolation hold significances in suspense, should bring in

[1] "Expectation," in my compressed and sufficiently burdened exposition, must be understood, by the reader's candour, to cover even such *expectations of the past* (to speak paradoxically, but not Hibernically), as an exponent of Geology may form as he carries on his thinking in the newly and imaginatively re-created world of—ages ago. It covers similarly my sense of the once open possibilities of things as they were ten years ago—both those since sealed as actualities on realised conditions, and those negatively sealed as possibilities in relation to now only imaginable conditions. . . . The breathless suspense in which we may trace afresh the lines of some already familiar history is a psychological revelation, I believe, of what is still true when less vividly evident.

their suggestive tendencies to the mutual determination of a suggestion of some significance of which one can proceed to avail oneself.

The conjoining of the foreign determinants, whenever it is intended to arouse imaginative suggestions as expectations actually meet to be entertained, however indefinitely and remotely, about the objects named, is not purely attributive, but predicative. Indeed, if a name alone is used with the intent of awaking in expectant form some imaginative suggestion attached to it, it is so far used predicatively.

Now it will often happen that the group of associations of some name applied to an object lie nearer to a speaker's purpose in referring to the object, than do the group of associations attaching to some other name, by which, however, his hearer is more likely to have his attention readily directed to the object itself. And this, in a rough way perhaps, may indicate the type of occasion which calls for the use of a proposition of two terms, connected by a copula, or mentally connected in a way which may find expression in a copula.[1]

Of the predicate I should say, as I say of all names in accordance with the view of the essential nature of intellection here implied throughout, that it is the mention of an object, or of objects, which can only be effectively mentioned in so far as they are capable of being determined, more or less through human activity, to the realisation of *some* kind of ulterior significance. Though an object be mentioned, for instance, purely as calculated to affect my æsthetic sensibilities, or solely as influencing my state of mind in very far-off contemplation, I still think the very reasonableness of its mention will depend on an assumption that some actual development of a contingent significance of its presentation—be that contingent significance only

[1] An important distinction seems to develop between these "is"—propositions and the "does"—propositions, with their active verb for copula and predicate. The former point to the anticipated or considered functions of objects *indirectly*, by means of a second name added to what we may call the remoter first term. The latter point more *directly*: but their simpler efficiency, dependent as it is upon well-differentiated nominal and verbal functions in language, appears to be something not more primitive, but more advanced. Psychologically, it seems to involve (1) a consciousness of one's own activity as what *continues* in time, however briefly—as distinguished from mere arising new and critical phases or features of being; and (2) a sympathetic transference of the idea of this to objects—not now considered hastily and narrowly as some mere phase of them may affect *us*, but (in a wider intellectual leisure) as if they were objects of interest "in themselves," to whose now more continuously conceived actions we attended as their own.

whatever psychical result was to be anticipated from the simple intenser devotion of my attention to it—is possible, and to be looked for. I esteem this as a principle of so general a nature with reference to reasonable speech, that it need not be left aside for any purposes—indeed, I would challenge its neglect in formal logic, as a neglect never countenanced by anything in nature or in mental structure, though deeply chartered in tradition, and perhaps in our own long-cherished views.[1]

If, now, in the proposition lately supposed, we mark the predicate as P, and the subject as S, and suppose it uttered in the form "All S's are P's," the condition of its truth and trustworthiness, which is at the same time its import, lies in this: that any objective[2] agent or determinant applied to P's as such,[3] may be applied to whatever we know as S's to like effect—we may confidently treat S's just as we treat P's. The work of propositional statement is to unite in respect of some identical range of ulterior significance terms which were of variant suggestion for the mind—the range of ulterior significance being that which is measured by the predicate, and which we are now taught, perhaps unfamiliarly, to attach to what we were, however, used to treating along lines suggested by the subject-term itself.

The assertion of an equivalence in respect of ulterior significance is the force I ascribe to the copula. It does not imply merely that the two groups of qualities marked by S and P are to some extent the same: but rather that they are one in respect of their significance as conditioned by any determinant that is relevant to P.

The practical reference of our proposition might be near or remote. Suppose it now to have been so near that P, under the circumstances in which the proposition was uttered, would leave the hearer in no doubt as to how he was expected to adjust himself. But it is characteristic of

[1] The simple naturalness with which objects marked as "S," or what not, are forthwith, in Logic, assigned to, or made to constitute, the logical fictionary class, seems to illustrate the tendency of the mind further to determine them, at least imaginatively, in our objective sense of doing something with them, or supposing something done with them. The assigning of this class-significance to an object arises out of actual sorting and moving—involving some actual and sensible determination or change. Psychology, if I mistake not, has long gone astray in taking this subtle relation to an indefinite class of similars as *the* significance of a presentation as in thought.

[2] "Or subjectively originating." These words may be added to cover the case of psychical issue through attention.

[3] *I.e.* to P's as having the conditional significance suggested to the interlocutors by the name P.

thought that advances, to take a stand higher and higher up the stream of conditionality—to seize on S's where the *contingency* of their practical issue is richer, and the open possibilities more numerous. If, then, we reserve the symbol P just now to represent terms of proximate practical suggestion, we may symbolise the new kind of statement attained by 'S′ is M'. It will be observed that if M can be P or P_n, the practical bearing of 'S′ is M' is to that extent open and uncommitted. But if the thinker advance to a statement 'S″ is M_5',[1] from which, by way of 'M_5 is M_4,' 'M_4 is M_3,' etc., a connexion with one P may be reached, from which also, by way of 'M_5 is M'_4'[2] and so on, a quite different volition-directing P may be reached—still others by routes of which 'M_5 is M_4' followed now by 'M_4 is M'_3'[3] may be a sufficient suggestion—the possible practical motives which make it rational to say 'S″ is M_5' may be getting buried out of sight for the speaker. But how when we begin to predicate M's so remote from practical decisiveness that we may fitly style them M_n's? The Protean character of their practical relations forms a disguise so baffling, it appears, as to have had the effect of invisibility itself.

To bring an utterance, then, to some obviously practical issue might mean bringing its quota of influence forward and still forward along any one of innumerable variously ramifying possibilities of other, but connected, propositional statement. The possibilities of practical issue attaching to many valuable propositions may thus be left, by them, so wide and undetermined, that it is little wonder if we have fashioned our logics as though it were indifferent whether a proposition ultimately had some possible practical reference or not. Yet if there *could* be a proposition with none, I think it would stand outside any system of propositions logically normal—a trifling example of intellectual vagary or sport.

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The disguise may be expected to be deep under those circumstances in which we keep significance suspended, and avoid unconstitutional references to foreign conditionings of ulterior and subserved significances, on pain of expulsion from the realm of Pure Mathematics.

[1] A fifth middle term away from a "P". We omit the consideration, in this quasi-diagrammatic treatment, that it might be the second or the hundredth from another "P".

[2] M_4 and M'_4 mean that there may be two "fourth" middles between an M_5 and a term of defined practical suggestion.

[3] Following our first route for one stage, and then branching off on a route differing both from that and from the second.

All having to do, in thinking, with the conditioned activities and sequences of objects is effectively veiled when, as in Geometry, we assume everything to be still but the unnoted finger or eye, the faintly imagined object or forgotten impalpability, which we are moving; while everything is passive and unresistant but ourselves. Under this veiling, I suspect that Euclid's directions and reflexions may fairly be read as the study of a conditioning of voluntary movements to certain effects. Take the first proposition. Confronted with a finite straight line AB, recording an ever-retraceable movement (how determined itself I will not now attempt to decide), the object which I mean to move as directed is to be determined to find its way from one extremity A, safely back to the other B, having pursued in its course two and only two rectilinear directions, AC, CB, each for a distance equal to that between the extremities. And first I learn how to condition its action into movements from the extremities of the line, in any direction *whatever* in the plane of the line, of equal length with the line. (Or, constituting my circles by the revolution of the line itself, I may say of the *same* length.) Then the movement is further and more definitely conditioned to be along the course of movements already potentially made in the fact of the presence of the revolving line in two such positions that the situation, C, of its extremity A, in the one case, was the same as that of its extremity B in the other. A path can now be retraced, conditioning for *the complex object whose movement according to prescription is part of its psychical constitution*, the desired significance—a path itself conditioned to condition the desired significance whenever actively retraced.

The assumed homogeneity of the conditions of movement, as in pure space, rendering it possible to take a movement in one portion of space as the potential making of it in any other portion to which the line marked by the movement may be considered to be transferred, excludes the differential conditions on which thought depends, and apparently reduces the mental action to such an *identification* of equal magnitudes in different situations as resembles the pure generalisation of minds in which the pondering and questioning of thought has found no opening. This abandonment of further thoughtful inquiry as hopeless, and consequent unquestioning acceptance, is, I believe, somewhat oddly taken for a "necessity of *thought*."[1]

[1] The question of the base of "necessity," from this point of view, connects with the philosophical problem of the existence of a world in which function as typical or general can be steadily effective. This opens up a profounder question in causation than any we have faced.

I may just add that I would suggest that something like the germ and spring of the inner development of the science of Number appears when, accepting it as a rule that a certain counted collection of objects is necessary to the accomplishment of some purpose, and having a relatively incomplete group, one considers what further counting out of objects there must yet be to condition the whole group to the desired significance or promise. On the present view of thought I find nothing simpler in the way of thought, as distinguished from instinctive behaviour, about numbers, than the analysis of a *given* total in subtraction.

V.

Past Oblivion of Conditional Significance.

Reliance upon a systematic *conditioning* is essential to the vigorous growth of our interpretation of objective phases as successive. This, accepted more and more steadily and discerningly as a sure, governing, though ever insensible principle of our experience, makes for its deliverance from mere higgledy-piggledy phenomenalism.

How strange, then, to look back and see near the beginning of the history of European reflexion upon general thought, a positive creation of rigid general substances that should save knowledge from disintegration by their very freedom from contingency! The creation seems to have arisen from a naïve fixing of consideration upon severed words out of their vital use. And there is likely to be an abiding difficulty in appreciating the nature of the possible reference of a portion of machinery which we examine by taking it out of its connexion with its highly variable gear. So it would appear that Plato, moving without the direction of a science long practised in systematic expression, and the far-off but certain paving of ways to practical issues, started, or confirmed, in his Realism, a diversion which Nominalism in its misdirected denial still followed up, and which has marked out the track of the psychological procedure of Experientialism even to our own day.

And if ancient philosophy, seizing, with Socrates, upon the sure definability of a general name as affording security for the fixed and reliable character of knowledge, but not thereafter proceeding to trace that definability to its roots in a constant social intent in using names, based, again, in the possibility of regulated expectations from objects, exhibits an example of abortion in the development of the theory of thought, modern philosophy may afford us another.

The constituents of Locke's nominal essences are recognised as being so selected from amongst the actual properties of things as to measure out certain species of things—framing them in a conformity to nature sufficient to subserve the purposes of social communication.[1] The real essence is the secret constitution conditioning the properties of the species.[2] So far, however, as these properties are only powers, which (while they make a great part of our complex ideas of substance)[3] are not really in the substance considered barely in itself, but "are nothing else but so many relations to other substances," they plainly wait for the substances of different sorts mutually "to operate" on each other before they come to that manifestation and human notice which alone can render their conditions the basis of a nominal essence.[4] This seems threatening to Locke's confinement of the real essence on which the nominal essence depends[5] to being "that particular constitution which everything has in itself, without any relation to anything without it";[6] since such a basis involves the concurrence of substances not of one sort, but of different sorts. He himself, indeed, can refuse[7] to consider substances "each of them as an entire thing by itself, having all its qualities in itself," and suggest for their powers a cosmic dependence, ranging "not only beyond this our earth, and atmosphere, but even beyond the sun, or remotest star our eyes have yet discovered". "If some one of the stars or great bodies incomprehensibly remote from us, should cease to be or move as it does," then, "perhaps, things in this our mansion, would put on quite another face, and cease to be what they are." But with what effect, we may ask, on nominal essences, and with what disclosure, upon the whole, of their true conditions? "This," he says, "is certain, Things however absolute and entire they seem in themselves, are but retainers to other parts of nature, for that which they are most taken notice of by us." It would seem, then, that Locke comes nearer than he is aware to finding the actual sustaining condition of the nominal essences not, indeed, in any confined and rigid real essences of substances of particular sorts, but in the constant maintenance of order and system in the immeasurable dependences of things.

As after Socrates, so after Locke, one could imagine the

[1] Bk. iii., ch. vi., §§ 29, 30, 35.
[2] Bk iii., ch. vi., § 6.
[3] Bk. ii., ch. xxiii., § 8.
[4] *Cf.* bk. ii., ch. xxiii., § 37, *end*; also *cf.* bk. ii., ch. xxxi., § 8 *end*.
[5] Bk. iii., ch. vi., § 2.
[6] Bk. iii., ch. vi., § 6.
[7] Bk. iv., ch. vi., § 11.

direct sequel in philosophy changed. Instead of that insufficiently pragmatistic examination of the abstract idea (Locke's nominal essence) whereby Berkeley led the way for Hume, we might fancy an immediate reaching of that development towards which Locke seems thus to have been unconsciously borne.

. . . . . .

Locke and Hegel unite in telling us—what our thought continually implies as it follows, in deepening assurance, an objective directing the ultimate spring and security of which is out of sight—that things are not essentially their bare individual selves. We can *think* of each only as having a significance which belongs apart to none, and belongs to any only on conditions which we ever more fully, but ever incompletely, assign.

IV.—SYMBOLIC REASONING (VIII.).[1]

By Hugh MacColl.

1. The main subject of this article will be paradoxes. We meet with them everywhere—in logic, in mathematics, and in science generally. They nearly always spring from the ambiguities and obscurities more or less inherent in all languages—the symbolic languages of logic and mathematics not excepted. The same words or symbols suggest different concepts to different minds, and even to the same mind at different times. Take the word *infinite* or *infinity*, which mathematicians usually represent by the symbol ∞. Works on modern geometry often speak of a series of straight lines meeting at "*the* point at infinity," when, as a matter of fact, their points of intersection at infinity, instead of being one, may be many, or may even be non-existent. And they also speak of a series of points being all in "the line at infinity," when there may be no real line containing all the said points, either at infinity or elsewhere. Similarly algebraists sometimes speak of the infinity ∞ as if it were one definite huge number or ratio which differed from a million or a billion in only one respect, that of being much larger; whereas there are numberless infinities, each of which differs from a million or a billion not only in being much larger, but also in another important quality of which I shall speak presently. The truth is that the real 'infinity' of mathematics denotes not a single individual ratio but a whole class, and that the symbol ∞, *when it represents a reality* (which it does not always), sometimes stands for an infinite ratio ∞_1, at another time or in another place for a different infinite ratio ∞_2, at another time or place for an infinite ratio ∞_3, and so on. Thus, when we meet such a statement as $\infty = 2\infty = \frac{1}{2}\infty$, which seems to assert the absurdity that infinity is equal to its double and also to its half, we must understand it to mean $\infty_1 = 2\infty_2 = \frac{1}{2}\infty_3$, a perfectly self-consistent statement which only asserts that the infinity ∞_1 is double the infinity ∞_2 and

[1] For VII. see Mind, July, 1905.

half the infinity ∞_3. Similarly an infinity ∞^n may be either infinite or infinitesimal in comparison with another infinity ∞^n.

2. But, it may be asked, what is it exactly that separates the infinite from the finite? Where is the exact line of demarcation? Let F denote the class of *finite* positive numbers or ratios, made up of the individual ratios F_1, F_2, F_3, etc.; and let H denote the class of positive *infinities*, H_1, H_2, H_3, etc. Logical consistency requires that these two classes shall be considered mutually exclusive; for it is clear that, speaking of any number or ratio A, the two statements A^F and A^H are mutually inconsistent. If any real ratio A is finite, it cannot be infinite; and if it is infinite it cannot be finite. Neither can it, however large, be on the borderland between the two classes. These statements may be expressed by a single formula, $(A^F A^H)^n$.

3. For example, let M denote a *million*. The number M^M (which means $M \times M \times M \times \ldots$ etc., up to a million factors) is inconceivably large—so large that the volume of the earth (or even of the sun, or of a sphere enclosing our whole solar system) divided by that of the smallest drop of water, would be an exceedingly small number in comparison; yet the number M^M belongs to the finite class F and not to the infinite class H. So does the number M^{MM}, which is inconceivably large even in comparison with the inconceivably large number M^M; and so does M^{MMM}, which is inconceivably large even in comparison with M^{MM}. And we might carry the ascending comparison further, till the hand got weary of the repetition of exponents, without finding any number or ratio that belongs to the infinite class H, or that does not belong to the finite class F. Are the finite F and the infinite H then both indefinable? Is there no quality Q which we can assert of every F and deny of every H? There is, and it is this: *Every finite number or ratio* F, *however large, is expressible, either exactly or* (like π) *approximately, in the decimal or some other conventional notation, in terms of some finite number or ratio* (such as 10 or 100 or 1,000,000, etc.); *whereas no infinite number or ratio is, either exactly or approximately, expressible solely in terms of any finite number or numbers.* Thus, M^M, M^{MM}, M^{MMM}, etc., though inconceivably large, are all finite, because they are all expressible in terms of the finite and known number M; whereas H_1, $2H_1$, $\frac{1}{10}H_1$, and generally FH (whatever be the finite number F and the infinite number H) are all infinities, because they are too large to be expressible, either exactly or approximately, solely in terms of any known numbers or ratios however large.

4. Similarly we may define the class of *infinitesimal* ratios, a class which we will here denote by h. Just as every infinite number or ratio H is too large to be expressible, either exactly or approximately, solely in terms of any finite number F, or finite numbers F_1, F_2, etc., so every infinitesimal ratio h is too small to be expressible, either exactly or approximately, solely in terms of any finite number or ratio F, or finite numbers F_1, F_2, etc. Thus, just as M^M, though inconceivably large, is still not infinite, so its reciprocal $1 \div M^M$, though inconceivably small, is still not infinitesimal.

5. Using the symbol A^x to assert that the number or ratio A belongs to the class x, where x may stand for F or H or h, these conventions or definitions give us several evident formulæ, of which the following are a few:—

(1) $(FH)^H$; (2) $(Fh)^h$; (3) $\left(\frac{F}{H}\right)^h$; (4) $\left(\frac{F}{h}\right)^H$; (5) $\left(\frac{H}{F}\right)^H$; (6) $\left(\frac{h}{F}\right)^h$; (7) $(F \pm h)^F$; (8) $(H \pm F)^H$; (9) $H_1 + F = H_2$; (10) $\frac{H_2}{F} = H_3$; (11) $\left(\frac{H}{h}\right)^H$; (12) $\left(\frac{h}{H}\right)^h$.

What leads to much confusion is the fact that mathematicians also use the word *infinity* and the symbol ∞ to denote such expressions as $\frac{1}{0}$, $\frac{2}{0}$, etc., *which represent no real ratios at all but pure non-existences*, such as in my two preceding articles I have denoted by the symbol 0. But as these pseudo-ratios $\frac{1}{0}$, $\frac{2}{0}$, etc., form a different class of non-existences from the pseudo-ratios $\frac{0}{1}$, $\frac{0}{2}$, etc., it would be convenient in *mathematical* reasoning to restrict the symbol 0 to the latter class, and the symbol ∞ to the former. Thus, the symbol 0 represents, as it were, the *death of a real infinitesimal ratio h* in passing from the positive to the negative state, or *vice versa;* while the other non-existence symbol ∞ (which may be called *pseudo-infinity*) similarly represents, as it were, the *death of a real infinite ratio H*, in making the same transition. We shall then get the following self-evident formulæ, in which (to prevent ambiguity) the symbol :: will be used (instead of =) to assert equivalence of *propositions*, not equivalence of *ratios*.

(13) $\left(\frac{A}{B}\right)^H :: \left(\frac{B}{A}\right)^h$; (14) $\left(\frac{A}{B}\right)^0 :: \left(\frac{B}{A}\right)^\infty$; (15) $\left(\frac{\infty}{F}\right)^\infty$; (16) $\left(\frac{F}{\infty}\right)^0$; (17) $(F\infty)^\infty$; (18) $(F0)^0$; (19) $(\infty \pm F)^\infty$; (20) $\left(\frac{F}{0}\right)^\infty$; (21) $\left(\frac{0}{F}\right)^0$.

If we denote negative infinity by K, negative infinitesimal by k, and use the symbol $\tan^z A$ as an abbreviation for the *statement* $(\tan A)^z$, and similarly for other trigonometrical ratios, we get

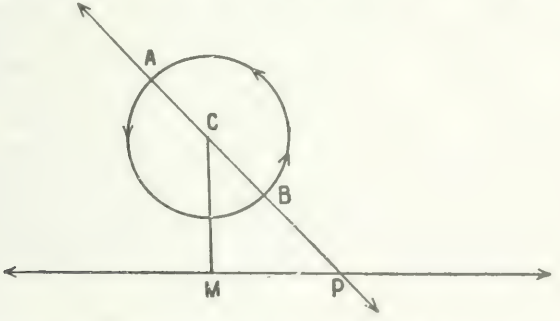
$$(22)\ \tan^H\left(\frac{\pi}{2}-h\right);\ (23)\ \tan^K\left(\frac{\pi}{2}+h\right);\ (24)\ \tan^\infty\left(\frac{\pi}{2}\right);$$

$$(25)\ \cot^0\left(\frac{\pi}{2}\right);\ (26)\ \cot^h\left(\frac{\pi}{2}-h\right);\ (27)\ \cot^k\left(\frac{\pi}{2}+h\right);$$

$$(28)\ \sec^\infty\left(\frac{\pi}{2}\right);\ (29)\ \cos^0\left(\frac{\pi}{2}\right);\ (30)\ \sec^K\left(\frac{\pi}{2}+h\right);$$

with numberless others on the same principle of notation.

6. The following is a geometrical illustration bearing both on the ambiguity (as commonly employed) of the word *infinity*, and on the (to my mind inadmissible) paradox of the non-Euclidean geometry, that a point moving always in the same straight line and in the same direction may nevertheless finally find itself at the point of starting.[1] Let a



straight line of unlimited length, such as AB produced both ways indefinitely, revolve uniformly in the unscrewing direction round a fixed point C, and cut a *fixed* straight line, also of unlimited length, at the variable point P. Let MC, the perpendicular from C upon the fixed straight line, be our linear unit. As the moving line revolves uniformly round C, the point P moves farther and farther, and with fast increasing velocity, to the right of M, while the angle PCM (or BCM) increases continuously and uniformly. Just before this angle BCM becomes a right angle (the difference being infinitesimal) the straight line MP (which also represents tan PCM, since MC is our linear unit) passes through a

[1] The paradox is, of course, perfectly admissible in regard to a line that is *virtually* straight but not straight absolutely (see § 8). Such are some of the so-called "straight lines" of the non-Euclidean geometry.

numberless succession of increasing real positive infinite values, H_1, H_2, H_3, etc., that is to say, positive values all too large to be expressible solely in terms of any finite values (see § 3). When the angle BCM becomes exactly a right angle, the point P, the infinite straight line MP, and the infinite ratio $\frac{MP}{MC}$, which represents tan PCM, all vanish, and the revolving line becomes parallel to the fixed line. Then, the revolution still continuing, another and *different* point Q, *representing the intersection of the other branch* (*the branch* CA *produced*) *of the revolving line with the fixed line*, springs into existence at an infinite distance to the *left* of M, and the straight line QM, after passing through a numberless series of really infinite but diminishing values, eventually becomes finite and continues to diminish till it finally vanishes, or becomes zero, just as the variable point Q coincides with M.

7. The mistake made by non-Euclideans, when they appeal to geometrical examples like the preceding, is that they wrongly identify the variable point P which moves always *through contiguous positions* to the *right* of M, and farther and farther away from M till it finally vanishes, with the point Q which immediately after springs into existence at an infinite distance to the *left* of M, and then moves through contiguous positions nearer and nearer to M till it finally coincides with it. When this coincidence takes place, the infinite branch containing both the fixed point C and the revolving point B will be pointing perpendicularly upwards, with B above C, and will contain neither the point P, *which it lost when parallel to the fixed line and never recovered after*, nor the point Q, *which had never belonged to it but to the other infinite branch containing the revolving point* A. The fallacy of the non-Euclideans is analogous to that of the lawyers who assert that "the king never dies," because the instant the king P dies, his successor Q becomes, *ipso facto*, king in his place. To both we may return analogous answers: to the lawyers we reply that the dead king P is nevertheless *not* the living king Q; and to the non-Euclideans we reply that the vanished point P is nevertheless *not* the new point Q. When the angle BCM is a right angle there is no point P, and there is no point Q, so that in this position of the revolving line (a position parallel to the fixed line) the distances MP and QM are *pseudo-infinities* which have only symbolic existence. Suppose the revolving line to remain for a moment stationary in this parallel position. If it then revolves through an infinitesimal angle in the screwing direction, we get the

point P to the right of M, and a *real* infinite distance MP. If, on the contrary, it revolves from its parallel position through an infinitesimal angle in the unscrewing direction, we get the point Q to the left of M, and a *real* infinite negative distance MQ.

8. It would conduce to logical accuracy in dealing with these questions if we introduced the term *virtually* into our reasoning and defined it as follows. Two straight lines are said to be *virtually* parallel[1] when they meet at some real infinite distance, H or $-H$. Suppose, for example, we have three straight lines, A, B, C, and that A meets B at an infinite distance H_1, and meets C at another but still infinite distance H_2. Here we may accurately assert that A, B, C are *virtually* parallel, for, by our very definition of the words *infinite* and *infinitesimal*, it follows that the error of deviation from the parallel position, though theoretically real, must for ever remain too small for the most perfect instrument to detect, and for the most powerful notation accurately or approximately to express in finite terms. In like manner, if we suppose A and B to be two ratios, finite, infinite or infinitesimal, the statement that "A and B are *virtually*[2] equal" means $\frac{A}{B} = 1 \pm h$, in which h denotes any infinitesimal ratio, as defined in § 4. In the infinitesimal calculus (including the differential and integral) an equation (A = B) often asserts *virtual* and not real equality; but logical accuracy may be secured by the tacit convention that whenever we have the statement (A = B), it is to be understood as asserting that "A is *either absolutely or virtually* equal to B". Let A, B, C be three points on the surface of a sphere of radius R, forming the spherical triangle ABC. Whether R be finite, infinite, or infinitesimal, as defined in §§ 3, 4, if the ratios $\frac{AB}{R}, \frac{BC}{R}, \frac{CA}{R}$ be all three infinitesimal, the sum of the three angles A, B, C is *virtually* but not really equal to two right angles. If the three points A, B, C be on a *real plane surface*, then the sum of the three angles A, B, C is *really* equal to two right angles. Again, a finite section AB of a curve may be called *virtually* straight when at every

[1] Similarly two straight lines are *really* parallel when their (non-existent) point of intersection is at some pseudo-infinite distance, such as $\frac{1}{0}$, or $\frac{2}{0}$ or $\frac{\infty}{3}$.

[2] For example, the statement $\left(1+\frac{1}{2}+\frac{1}{2^2}+\frac{1}{2^3}+ \ . \ . \ . \ +\frac{1}{2^H}=2\right)$ asserts *virtual* and not *absolute* equality.

point of the curve between A and B the radius of curvature is infinite, and the curvature consequently infinitesimal. Even an infinite section AB may be called *virtually* straight when $\frac{AB}{R}$ is infinitesimal, R being any of the radii of curvature;[1] for in this case the infinity AB (infinite in regard to any finite unit) is infinitesimal compared with the infinity R. The symbolic and linguistic conventions here proposed would, I think, greatly increase the logical accuracy of modern geometry without in the least impairing its great power as a practical instrument of discovery and research.

9. Metaphysicians sometimes ask whether space — the actual space of our perceptive experience—the space filled with the entity called *matter*, or with the entity called *ether*, or with both—is really infinite. Considering we can give no satisfactory definition either of 'matter' or of 'ether,' the question hardly admits of a clear and intelligible answer, or, at any rate, of any answer that logicians, metaphysicians, and physicists would be all likely to accept. The purely ideal space of the mathematician is far easier to understand, and this space must, I think, be pronounced infinite—that is to say, infinite in the sense of the word explained in § 3—for the simple reason that the opposite supposition plunges us at once into logical contradictions. We can all, without any conflict of opposing concepts, imagine a sphere whose radius is too large to be expressible (whatever be our conventional notation) in terms of finite ratios alone, and that sphere is, *by our very definition*, infinite. And we cannot stop there. By our definitions and conventions also, it follows that $H_1 + H_2 = H_3$; that the sum of the *real* infinities H_1 and H_2 make a third *real* infinity H_3 greater that either. Similarly we get $H_1 + H_2 + H_3 = H_4$, and so on for ever. But we cannot, without further data, assert $H_1 - H_2 = H_3$; for $H_1 - H_2$ may $= F_1$, or may $= 0$, since neither the supposition $H_1 = H_2 + F$, nor the supposition $H_1 = H_2$, involves any formal inconsistency.

10. It may be objected that the definitions which I here propose of the *finite*, the *infinite*, and the *infinitesimal* are quite arbitrary. To this I reply, firstly, that all definitions are more or less arbitrary; secondly, that, however arbitrary my definitions may be, they are mutually consistent, and in

[1] By this is meant that $\frac{AB}{R_1}, \frac{AB}{R_2}, \frac{AB}{R_3}$, etc., are respectively infinitesimal for the separate points P_1, P_2, P_3, etc., between A and B. The infinities R_1, R_2, R_3, etc., are generally, though not necessarily, unequal.

no way clash with, but, on the contrary, render more precise, the rather vague significations usually attached to the words in ordinary language and even in mathematics; and, lastly, that they are very convenient and, if accepted, would materially increase the formal accuracy of our reasoning whether the questions discussed be metaphysical, logical, or mathematical. Clear working definitions of the words *finite*, *infinite* and *infinitesimal* are imperatively needed; and if those I here propose be not found suitable, others should be substituted. By "working definitions" I mean definitions which, by their formal precision, would prevent ambiguities and staggering paradoxes—paradoxes that may be true or false according to the meanings attached to the words in which they are expressed. In ordinary informal speech variability of meaning is, of course, permissible, as the context generally prevents all ambiguity. No one, for instance, would misunderstand the meaning of such a statement as "He took *infinite* pains, yet his gains were *infinitesimal*"; but in logic and mathematics the case is different. Here also, it is true, the context as a rule prevents ambiguity, but not always; and when it does not, the errors into which we fall are often serious. We should especially remember that such expressions as $\frac{1}{0}, \frac{2}{0}, \frac{\infty}{3}$, like their reciprocals $\frac{0}{1}, \frac{0}{2}, \frac{3}{\infty}$, etc., are not real ratios at all, but pure unrealities, though they have their utility as symbols.

11. Paradoxes also arise from the fact that our unit of reference is not always constant. A pound of tea is lighter at the equator than in London or Paris or Melbourne; yet a pound of tea always weighs a pound, neither more nor less, wherever we may weigh it, provided the scales we use be correct. And if we took our pound and scales and weights to the moon or to the planet Mars, the result, in spite of the greatly diminished attraction, would be the same; the pound of tea would be much lighter, but so would our unit of comparison, the metallic pound with which we weighed it. It is the same with all spatial dimensions. We can never be sure that our units of comparison remain constant; or, rather, we may be quite sure that they do not. The actual length of the standard yard or standard *mètre* varies with the temperature. True, so far as our experience goes, the variation owing to this cause is slight; but then our experience of the possibilities and actualities of nature is literally infinitesimal. For aught we know to the contrary, there may be other and far more powerful causes at work, causes which (unlike heat) act equally on all the perceptible substances of *our* universe.

though not equally, perhaps, or at all, on all the substances of other worlds beyond our ken ; so that, in comparison with some constant standard unit lying hidden in some infinitely distant sphere, the dimensions of everything in *our* visible universe—of the sun, of the moon, of the earth, of its mountains, oceans, seas and rivers, of the houses upon its surface, and of the inhabitants who live in them, our own selves included, may be rapidly diminishing,[1] and in nearly the same relative proportions, so that the actual size of each one of us to-day may, in comparison with this constant unit, be only the hundredth or the millionth part of what he or she was yesterday. Personally I believe the actual variation to be much less serious ; but this is an opinion for which, as for other cherished convictions, I can find no logical foundation.

12. Let us now examine the meanings of the words *finite*, *infinite* and *infinitesimal* in reference to time. Here too we have the actual and the ideal, and, as in the case of space, the ideal is easier to deal with than the actual. Actual time is measured by clocks and watches, and the correctness of these is tested by observations of the motions, or apparent motions, of the sun, moon and stars ; but the respective motions of these, when mutually compared, are not uniform ; so we take the apparent motion of one of them, the sun, and dividing its cycle into a certain number of equal parts, we take one of these as our constant unit of reference. For all practical purposes this answers all our needs ; but what of the assumptions on which this theory of time is founded? How do we know that these solar cycles are even approximately equal? How do we know that, in comparison with some other unit of time, depending, say, upon the more uniform motion of some other heavenly body, far away in space beyond our power ever to discover, the motions of all the heavenly bodies, of our clocks, of our watches, of everything we know, including our very thoughts and sensations, may not be rapidly increasing in velocity, and in nearly the same relative proportions, so that, when measured by this standard unit, our years, days, hours, minutes and seconds, and, consequently, the duration of our lives may be infinitesimal in comparison with the years, days, hours, etc., and the duration of the lives of our fathers or grandfathers? The paradox arising from the possible variation of our standard and unit of space has thus its counterpart in the paradox

[1] Of course it is equally possible that the variation may be in the opposite direction.

arising from the possible variation of our standard unit of time. And so with all our units of comparison. For theoretical reasoning, as well as for the practical needs of daily life, we find it convenient to assume our units constant while other things vary; so we make this assumption the basis of all our reasoning without needlessly saddening our minds by a too logical analysis of its legitimacy.

13. Symbolic logic too has its paradoxes, that is to say, formulæ which appear paradoxical till they are explained, and then cease to be paradoxes. Such is the formula $\eta : \epsilon$, which asserts that "an impossibility implies a certainty". As soon as we define the implication A : B, by which we symbolise the statement that "A implies B," to mean simply $(AB')^{\eta}$, which asserts that the affirmation A coupled with the denial B′ contradicts our data or definitions, the paradox vanishes. For then $\eta : \epsilon$ is seen simply to mean $(\eta\epsilon')^{\eta}$, which is a clear truism.[1]

14. Another paradox at first sight is the statement that the simple affirmative A, though *equivalent* to A^{τ}, which asserts that A is true, is not *synonymous* with A^{τ}; and that, in like manner, the denial A′, though *equivalent* to A^{ι}, which asserts that A is false, is yet not *synonymous* with A^{ι}. Other symbolic systems, it is true, do not draw this distinction; but mine does, and so, I believe, do all civilised languages. The fact that they do is a *prima facie* presumption in favour of my opinion that the distinction is real and corresponds to a logical need. Surely it is more than a coincidence that every civilised language should have two separate expressions, one corresponding (taking an example at random) to the English statement "It rains," and another to the English statement "It is true that it rains"; and also two separate expressions, one corresponding to "It does not rain," and another to "It is false that it rains". The two statements A and A^{τ} are *equivalent* because neither can be true without the other being so also; but they are not *synonymous;* otherwise we could always substitute A^{τ} for A and *vice versa* in no matter what expression without altering its meaning. That this cannot always be done may be shown as follows. Let A denote a variable statement θ_{τ}, that is to say, a statement, such as "It rains," which we assume to be true now or in the case considered, but which is not necessarily or always true. Then, on the one hand, we get

[1] Observe that though $\eta_x : \epsilon_y$, like $\epsilon_x : \epsilon_y$, is a *formal certainty*, yet $\eta_x \therefore \epsilon_y$, unlike $\epsilon_x \therefore \epsilon_y$, is a *formal impossibility*. Non-Euclideans seem to me to forget this when they say that their systems are as "self-consistent" as the Euclidean.

$$A^{\theta} = (\theta_{\tau})^{\theta} = \epsilon ;$$

for every variable, whether it be a variable of the class θ_{τ} (a statement true now but not always) or a variable of the class θ_{ι} (a statement false now but not always) remains still a variable, so that $(\theta_{\tau})^{\theta}$, like $(\theta_{\iota})^{\theta}$ is a formal certainty. On the other hand, we get

$$(A^{\tau})^{\theta} = (\theta_{\tau}^{\tau})^{\theta} = \epsilon^{\theta} = \eta ;$$

for θ_{τ}^{τ} means $(\theta_{\tau})^{\tau}$, which is a formal certainty, and a certainty cannot be a variable, since certainties and variables form two mutually exclusive classes by definition. This might also be proved in a slightly different way as follows. Let $A = \theta_1 = \tau_1$. We get

$$A^{\theta} = \theta_1{}^{\theta} = \epsilon ; \text{ but } (A^{\tau})^{\theta} = (\tau_1{}^{\tau})^{\theta} = \epsilon^{\theta} = \eta.$$

Similarly we may show that A′, though equivalent to A^{ι}, is not synonymous with A^{ι}. For let $A = \theta_{\iota}$. We have on the one hand

$$(A')^{\theta} = A^{\theta} = \theta_{\iota}^{\theta} = \epsilon,$$

and on the other

$$(A^{\iota})^{\theta} = (\theta_{\iota}^{\iota})^{\theta} = \epsilon^{\theta} = \eta.$$

The statements A and A′ (like A^{B} and its denial A^{-B}) are of *the same degree*, whereas A^{x} (whether x stands for τ or ι or ϵ or η or θ, or any other class of statements) is *one degree higher*, and may therefore be called *the revision of the judgment* A. Two contradictory judgments, A and A′, are placed before us, and we have to decide which is true. If we decide in favour of the affirmative A, we say that "A is true" and write A^{τ}; if we decide in favour of the negative A′, we say that "A is false" and write A^{ι}. But the question to be decided may be not merely to decide whether A is true or false, but whether A follows necessarily from, or is inconsistent with, our definitions or admitted and unquestioned data. In that case we write A^{ϵ} when we decide that A *does* follow necessarily from our data; we write A^{η} when we decide that A is inconsistent with our data; and we write A^{θ} when we decide that A neither follows from nor is inconsistent with our data. Similarly, A^{xy}, or its synonym $(A^{x})^{y}$, is a revision of the judgment A^{x}; and so on. It will be noticed that A^{xy} and A_{x}^{y}, which means $(A_x)^{y}$, are quite different statements, since A^{x} and A_x are different. The statement A^{x} *asserts* that A belongs to the class x; the statement A_x *takes this for granted.* For example, A_{θ}^{ι}, which means $(A_{\theta})^{\iota}$, asserts that "the *variable* statement A is *false*"; whereas $A^{\theta_{\iota}}$, which means $(A^{\theta})^{\iota}$, asserts that "it is *false* that A is *variable*". The statements A and A_x are of the same

degree ; the statement A^x is of a degree higher. The statement A^{xyz}, since it means $(A^{xy})^z$, is of the *first* degree as regards its subject A^{xy} ; but since it also means $(A^x)^{yz}$, it is of the *second* degree as regards A^x, and of the *third* degree as regards the *root-statement* A. Now, suppose A stands for $Q^{\alpha\beta}$. In that case, though A is the *root-statement* as regards A^{xyz}, it is a statement of the second degree as regards the root-statement Q ; and A^{xyz}, which is of the *third* degree as regards A, is of the *fifth degree* as regards Q ; for, expressed in terms of Q, it means $Q^{\alpha\beta xyz}$.

15. Let me here say a few words in reply to the logicians who maintain that statements can only be classed as *true* and *false*, and that my introduction of such classes as *certainties*, *impossibilities*, and *variables*, and of any others that may concern our argument or researches, is wrong, or at any rate, outside the proper domain of logic, and especially of symbolic logic. This is very much as if one argued that since animals are only divisible into two classes, males and females, it is no business of true zoology to consider the respective characteristics of such creatures as lions, tigers, and leopards, to say nothing of others still more objectionable. All such attempts to surround symbolic logic by a Chinese wall of exclusion are futile.

16. Another argument against my system is that *variable* statements, statements which are sometimes true and sometimes false, have no real existence ; that a statement if once true is true always, and if once false is false always. But surely this is a mere play upon words, and it does not seem to me very accurate even as that. A servant, in reply to an inquiry at the street door in the morning, says, and says truly, that "Mrs. Brown is not at home". The same servant, *in reply to the same inquiry* in the afternoon, says again, and this time, in obedience to instructions, says falsely, that "Mrs. Brown is not at home". She makes exactly the same statement as in the morning, because *she uses exactly the same form of words ;* but this statement, this form of words, which was true in the morning, because in the morning *it conveyed true information*, is false in the afternoon, because in the afternoon *it conveyed false information*.

17. Let us look at the matter from another point of view. Suppose we have no data but our definitions or symbolic and linguistic conventions. Let A, B, C respectively denote the three statements "7 is greater than 5," "6 is greater than 9," "x^2 is greater than x". Is it not clear that with these meanings of the symbols we may truly and confidently make the three-factor compound statement $A^1B^0C^?$? For,

by our very definitions of the words *certain*, *impossible*, *variable*, respectively represented by the symbols ϵ, η, θ, is not the first statement A *certain*, because *it follows necessarily from our data*, which are here limited to our definitions and linguistic conventions? Is not the second statement B *impossible*, because *it contradicts* (or is *inconsistent with*) *our data?* And is not the third statement C a *variable*, because, though perfectly intelligible, *it is neither certain nor impossible?* To say that C is *neither true nor false* would be incorrect; for it may be either. It is true when x is greater than 1; it is false when x is not greater than 1.

18. To take another case; suppose two men are playing dice, and that, just before a throw, three spectators make the three following statements, which we will denote by A, B, C: "The number that will turn up is less than 8" (A), "The number that will turn up is greater than 8" (B), "The number that will turn up is 5" (C). Since by our data, or tacit conventions, the only numbers possible are 1, 2, 3, 4, 5, 6, is it not clear that we must have $A^{\epsilon}B^{\eta}C^{\theta}$? Is not A *certain* because it follows necessarily from our data? Is not B *impossible* because it is inconsistent with our data? And is not C a *variable* because it neither follows from nor is inconsistent with our data? In the language of probability, the chance of A is 1, the chance of B is 0, and the chance of C is neither 1 nor 0 but a proper fraction. What that proper fraction is the statement C^{θ} does not say; but we know it to be $\frac{1}{6}$. Taking the three denials A′, B′, C′, the chance of A′ is 0, the chance of B′ is 1, and the chance of C′ is $\frac{5}{6}$; so that we have $(A')^{\eta}(B')^{\epsilon}(C')^{\theta}$. This shows that here, as always, the denial of any certainty A is an impossibility A′, the denial of any impossibility B is a certainty B′, and the denial of any variable C is also a variable C′.

19. Other paradoxes arise from the fact that each of the words *if* and *implies* is used in different senses. Putting A and B for two propositions, the statements "If A then B" and "A implies B," which, in my symbolic system, I find it convenient to treat as synonymous and as having the meaning which I represent symbolically by any of the three synonymous symbols $(A:B)$, $(AB')^{\eta}$, $(A'+B)^{\iota}$, are used by some logicians not only in the above sense, but also in the weaker sense which I attach to the mutually synonymous symbols $(AB')^{\epsilon}$ and $(A'+B)^{\tau}$; because these logicians erroneously consider my ϵ to be equivalent to my τ, and my η to my ι. But there is yet another sense in which we all sometimes use the word *implies;* for when we say "A implies B" we sometimes mean not only $(AB')^{\eta}$, that it is

impossible for A to be true without B being also true, or the equivalent statement that the affirmation of A coupled with the denial of B is inconsistent with our data, but also that A *contains* B, that is to say, that B *is a particular case of* A. In this sense, I think it would be better to use the word *contains* rather than the word *implies*. For example, we may say that the formula $(x^m x^n = x^{m+n})$ *contains* the formula $(x^3 x^2 = x^5)$ as a particular case, and similarly that $(x^3 x^2 = x^5)$ *contains* $(6^3 6^2 = 6^5)$. Representing the first and most general of these three statements by the functional symbol $\phi\,(x, m, n)$, it follows from our definition of a logical function that $\phi\,(x, 3, 2)$ must denote the second, and that $\phi\,(6, 3, 2)$ must denote the third. It also follows that $\phi\,(x, m, n)$ *contains* $\phi\,(x, 3, 2)$, and that $\phi\,(x, 3, 2)$ *contains* $\phi\,(6, 3, 2)$. Again let $\phi\,(\mathrm{A}, \mathrm{B}, \mathrm{C})$, or simply ϕ, denote the Barbara of *general* logic, namely,

$$(\mathrm{A} : \mathrm{B})\ (\mathrm{B} : \mathrm{C}) : (\mathrm{A} : \mathrm{C}),$$

in which A, B, C may be any statements whatever—statements which may or may not have the same subject: and let $\phi_s\,(\mathrm{A}, \mathrm{B}, \mathrm{C})$, or simply ϕ_s, denote the Barbara of the *traditional* logic, namely,

$$(\mathrm{A}_s : \mathrm{B}_s)\ (\mathrm{B}_s : \mathrm{C}_s) : (\mathrm{A}_s : \mathrm{C}_s),$$

in which the statements A, B, C are understood to have the same subject S. We may then say that ϕ *contains* ϕ_s as a particular case. Also, since ϕ and ϕ_s are both *certainties*, we can assert not only $\phi : \phi_s$, that ϕ *implies* ϕ_s, but also $\phi_s : \phi$, that ϕ_s *implies* ϕ, since any certainty ϵ_x *implies* any other certainty ϵ_y. For, by definition, we have $\epsilon_x : \epsilon_y = (\epsilon_x \epsilon'_y)^\eta = (\epsilon_x \eta)^\eta = \epsilon$. We cannot however assert that ϕ_s *contains* ϕ, for it is ϕ_s that is a particular case of ϕ, and not ϕ that is a particular case of ϕ_s.

20. Misunderstandings and consequent paradoxes also arise from the fact that each of the words *because*, *therefore*, *prove*, and *infer* has more than one meaning: but a serious discussion of these would unduly lengthen the present article.

Post-scriptum. The preceding was written before I read Mr. Russell's kind and appreciative review of my *Symbolic Logic and Its Applications* (Longmans) in MIND, No. 58. The points of difference between Mr. Russell's views and mine are, as he says, small in comparison with the points of agreement, and the former would I feel sure be smaller still if we could discuss them orally face to face.

Mr. Shearman in his recently published book, *The Development of Symbolic Logic*, submits my symbolic system to much hostile criticism; but as he has evidently failed to grasp the

simple elementary notions on which my formulæ and operations are founded, his whole reasoning is, from beginning to end, irrelevant. On page 153, for example, he mixes up logic with psychology and defines a statement as *impossible* when, and only when, nobody can believe it.[1] Now, the belief in witchcraft is not yet dead. It follows therefore from Mr. Shearman's definition that it is still possible for old women to ride through the air on broomsticks, and that so long as the belief lasts, the possibility will last also.

[1] Mr. Shearman's exact words are as follows: "As an instance of the way in which statements described by these three terms are to be dealt with, take the following: 'It is impossible that x is y'. This would appear in such a form as 'A thinker who can believe that x is y does not exist'." The "three terms" to which Mr. Shearman refers are the words *certain*, *impossible*, *variable*, respectively denoted by my symbols ϵ, η, θ (see §§ 15-18).

V.—DISCUSSIONS.

PLATO'S DOCTRINE OF IDEAS.

By the kindness of the Editor, I have permission to offer some remarks suggested by observations on Plato's Doctrine of Ideas made by Prof. Burnet in the course of a Review which appeared in a recent number of MIND (N.S., No. 57, pp. 94 ff.). I am glad to have this permission because it gives me the opportunity of advancing a plea *for the employment of Psychology to control conclusions as to the meaning and scope of the Doctrine drawn by scholars from the literary data*.

The importance of this plea has been gradually brought home to me by my perusal of the expositions of the Doctrine offered by Prof. Henry Jackson and his followers, and by Dr. Lutoslawski. These expositions, however informing and suggestive they may be in parts, in themselves, as expositions, seem to me to fall short of scientific sufficiency because not controlled from the basis of Psychology. The literary evidence contained in Plato's Dialogues and Aristotle's Criticisms is fully taken, but submitted to the judgment of no court. The cardinal question is not asked: What has present-day Psychology to tell us about the Variety of Experience which expresses itself in the Doctrine of Ideas? The Doctrine is treated as if it were a 'past event' in the 'History of Philosophy' for determining the true nature of which there is such and such documentary evidence which, if only marshalled in the right way, is, in itself, conclusive. It is as if a commentator on Thucydides should think it unnecessary to submit the literary record of the Plague at Athens to the judgment of present-day medical science in order to ascertain from that authority what precisely the disease is which his author is endeavouring to describe.

The fault, then, that I have to find with the expositors whom I have mentioned is that they think it unnecessary to ask the question: What has modern Psychology to tell us about the Variety of Experience which finds expression in the Doctrine of Ideas? They go to the text in the dark. They converge on no generally acceptable, no obviously correct, view of its purport. With confusing variety of detail they tell us that, at one period of his career, Plato held this opinion, and, at another period, that opinion, while Pupils of the Academy, Pythagoreans, Eleatics, Megarics, not to mention Aristotle himself, held certain other opinions—about the

'Ideas'. "About the 'Ideas'?" The puzzled inquirer asks: "What are the 'Ideas'? What were all these people talking about? Surely about the right way of expressing some Experience which they all had in common, and we ourselves still have. Tell me, in the language—vernacular or philosophical—of to-day what that Experience is." To this appeal, Prof. Jackson and his followers and Dr. Lutoslawski have nothing to say. The inquirer is left to choose between empirical judgments or go away empty-handed—for let him not be misled by the appearance of substantial agreement among the textualists, and suppose that scientific truth is within sight. If they sometimes seem to agree, the agreement, on examination, will be found to be merely verbal; agreeing, as is natural, about the translation of some term or phrase—*αὐτὰ καθ' αὑτά*, *χωρίς*, *πιρεῖναι*, *μετέχειν*—they offer the translation as an interpretation. Prof. Shorey has already done service in calling attention to this habit of offering translation for interpretation as common among Platonic scholars; in connecting the habit with what I take to be its cause—lack of psychological basis, and entering this plea for supply of such basis, I hope that I may—perhaps not to-day, but some day—be thought to have supplemented his service. But better times are surely coming for the study of Plato. One who ventures to substitute interpretation for translation, and to put Plato's meaning into the modern language—vernacular or philosophical—into which modern men *must* put it, if they are to realise it as meaning at all, may indeed sometimes feel a slight shade of irritation passing over him when he reads the Notice—'*It is not Platonic*' to say this or that (*e.g.*, to say that the Intellect deals in 'existential' or 'theoretic' rather than in 'value' judgments)—the Notice with which the textualists warn the curious trespasser off their Scriptures; but the irritation soon passes into amusement, when he remembers that other Scriptures, though similarly fenced, have had their letter invaded, and indeed permanently occupied, by psychological interpretation.[1]

Prof. Natorp's exposition of the Doctrine of Ideas (1903), I do not class with the expositions of Prof. Jackson and his followers, and of Dr. Lutoslawski, as having no psychological basis. Prof. Natorp realises that Plato's Doctrine of Ideas has, at any rate, one side which can be understood only in the light of Psychology—the Psychology of the faculties by which the Man of Science interprets Nature. These faculties were the same in Plato as they are in the

[1] Perusal of M. Raeder's recent book has only deepened my impression of the confusion which reigns in the region of Platonic scholarship. M. Raeder, a sensible, though by no means suggestive, scholar, while recognising to the full the value of the method first pointed out and worked by Prof. Campbell, has no difficulty in showing up the arbitrary and subjective character of the conclusions drawn from the literary data by Platonic scholars from Schleiermacher downwards. M. Raeder's footnotes are indeed melancholy reading—such a long list of attempted solutions of the 'Platonic Problem.' and—if we believe M. Raeder, as, I think, we must—all of them mostly wrong!

modern Man of Science, and Plato's account of their operations must—allowance being made for modes of expression peculiar to himself and his age—bear close comparison with the account of them given by a modern psychologist who should make it his business to explain how the Man of Science to-day goes to work. This Prof. Natorp sees clearly. He sees, what their lack of Psychology prevents the Trinity College Cambridge School and Dr. Lutoslawski from seeing clearly, or at all, that the Doctrine of Ideas has a large significance as Method of Science; and he is very successful in expounding it as such on lines which, I am interested in noticing, are similar to those which I myself, starting from a hint of Lotze's (a hint which Prof. Natorp hardly appreciates at its true value), indicated in 1892. The εἴδη, so far as methodology is concerned, are points of view from which the Man of Science regards his data. They are the right points of view, and, as such, have the 'permanence' which we nowadays ascribe to 'Laws of Nature'. They are indeed 'separate' from phenomena; but only so in the sense that they are the 'explanations' as distinguished from the 'phenomena explained'. They are not 'separate' *Things*; the τρίτος ἄνθρωπος refutation, in the Tenth Book of the *Republic* and the *Parmenides*, disposes of the error—wrongly attributed by Aristotle to Plato—of substantiating them as separate *Things*. If we dismiss from our minds the prejudice raised by Aristotle's criticism we find nothing in the Dialogues of Plato to countenance the view that the Ideas, so far as they have methodological significance, are 'known' as statically existent: they are 'known' only as dynamically existent—only as performing their function of making *sensibilia* intelligible. It is as true of Plato's Ideas as of Kant's Categories that without sense they are empty. The Ideas, so far as their methodological significance is concerned, are nothing more than concepts-in-use—the instruments by employing which Human Understanding performs its work of interpreting the world—this sensible world, not another world beyond. This view of the function of Ideas in Science, Plato holds and enforces throughout the whole series of his Dialogues, and nowhere more plainly than in his earliest Dialogues, where the object is to find the εἴδη of the Moral Virtues, that is, to *explain* them by exhibiting each in its special context—by assigning to each its special place and use in the Social System—the System of the 'Good'. Sense, and imagination, and desultory thinking—expressing themselves in Rhetoric—present the 'Virtues' separately, taking no account of the System in which they inhere; ἀνάμνησις, described as αἰτίας λογισμός—connected thinking, stirred by Dialectic, works out the special context of each Virtue and the relations of that context to other contexts viewed as parts, along with it, of the whole System. 'Context grasped,' 'scientific point of view taken,' 'εἶδος discovered'—these are equivalent expressions. The εἶδος is not an impression of sense passively received; it is a product of the mind's activity—an instrument constructed by the

mind whereby it 'makes nature,' 'moulds environment,' so as to serve the purposes of human life. It is really in such Dialogues as the *Charmides*, *Laches*, *Euthyphron*, *Crito*, to which may be added the *Meno* and *Cratylus*, that the Doctrine of Ideas, as Method of Science, is best illustrated; and much harm has been done by the quite gratuitous assumption that the εἶδος which holds so important a place in these Dialogues is not the 'Platonic Idea'. The 'Platonic Idea,' we are told, is not a concept-in-use, but a 'separate substance,' and does not meet us till we come to later Dialogues. But the truth is that wherever there is scientific explanation, wherever 'context' is thought out, the 'Platonic Idea' is there. This being so, we must put aside as due to neglect of the psychology and methodological significance of the Doctrine of Ideas the view of Prof. Jackson and his followers that there are no 'Ideas' of qualities, physical or moral, no 'Ideas' of σκευαστά, no 'Ideas' of μαθηματικά, that even the 'Categories' of the *Theætetus* and *Sophistes* are not 'Ideas'—the list of 'Ideas' being emptied till only 'natural kinds' are left.

While recognising the service which Prof. Natorp has rendered by insisting on the methodological significance of the Doctrine of Ideas ignored by the other expositors whom I have mentioned, I have to find fault with him for assuming that the Doctrine has only that significance. His psychological basis does not include the psychology of that Experience on which Art and Religion depend for their inspiration. For that Experience the 'Idea' is not a 'point of view' taken by the mind in 'Discourse,' but a 'real presence' confronting 'Contemplation'. In 'Discourse' the mind is always 'on the move,' looking at particulars now from this, now from that, convenient point of view. Wonder does not enter into one's experience here; rather the sense of 'getting on,' of 'removing difficulties,' of 'solving new problems'. But in 'Contemplation' the mind 'rests,' wondering, in the presence of one 'eternal' object. The 'eternal Idea' is revealed in some welcome—some familiar, or beautiful, object of sense—literally *in* the object of sense: not as another object which the object of sense 'resembles,' but as that very object of sense itself transfigured, become a wonder. It is not *a* Skylark that Shelley hears and sees, but *the* Skylark. It is as induced and maintained by the representations—the μιμήματα —of the Fine Arts—especially by those of Painting and Poetry—that this Contemplation of the 'eternal Idea' as a 'real presence' in the object of sense, is most accessible to the observation of the Psychologist. It is here (where, I may say in passing, the psychology of 'emotional memory' is likely to occupy an important place), not in further examination of the letter of Plato's text, that the Platonic παρουσία awaits its explanation. Had Prof. Natorp's psychology taken account of this Variety of Experience, for which the 'Idea' is not a 'point of view' in 'Discourse' but a 'real presence' confronting 'Contemplation,' he could not have spoken as if the *Phædrus* Myth were a regrettable episode in Plato's other-

wise steady advance towards a clear doctrine of scientific method. He would have understood, once for all, that Plato is not only a Man of Science and Critic of Scientific Method, but also a Seer. As it is, he shows no appreciation of the masterly ease with which the Man of Science in Plato keeps the tendencies of the Seer in hand where the interests of Science would be compromised by their prevalence; and the *abandon* of the Seer, where scientific interests are not in question, he mistakes for serious defection from these interests.

I do not underrate the difficulty of the task which I venture to find fault with Prof. Natorp for not having attempted. The Variety of Experience which finds expression in that phase of the Doctrine of 'Ideas,' where the 'Ideas' are presented, not as 'scientific points of view,' but as 'eternal substances' really present in objects of sense, is one which has its roots very deep in Human Nature, as we must conclude from the fact that the expressions of it (and Plato's Doctrine of Ideas is neither the only expression of it, nor even itself reducible to a single formula) are at once so obscure to thought, and so perennially attractive to feeling. Those minds in which, as in Plato's, this deeply-rooted Experience is most vivid find any expression of it inadequate, and, in their effort to be out with it, try many modes of expression, emotional, sensuous, conceptual. Thus it is just where, as in Plato's mind, the Experience is most vivid, and its influence on its subject's life and thought presumably most profound, that the literary evidence to be submitted for interpretation to the Court of Psychology is likely to be most conflicting. Here, as it seems to me, lies the peculiar difficulty confronting the psychological interpretation of Plato's Doctrine of Ideas regarded not as method of science—the psychological interpretation of that side of the doctrine is comparatively easy—but as expression of the Experience from which Art and Religion draw their inspiration. But it is, after all, only a difficulty of detail, and will certainly be overcome when trained psychologists, especially those in whom the Experience mentioned is vivid, have made that Experience an object of special study in themselves and in others, and have examined the literary evidence for it in Plato critically in the light of their special study. The trend of criticism is now so steady in the direction of treating 'Philosophical Doctrines' as expressing Varieties of Experience to be explained psychologically—or, to use the most comprehensive term, biologically—that there can be no doubt that, sooner or later, we shall see the Doctrine of Ideas treated in this way. And we may confidently expect that the employment of this intimate method of interpretation upon work so genial, so charged with rich personality, as is Plato's, will discover there treasures of truth and beauty hitherto hidden.

It is now time to bring the foregoing general remarks to bear specially on some statements made by Prof. Burnet in his Review. I trust that nothing I may have to say will be thought inconsistent with appreciation of the friendly spirit of that Review or with the

respect due to him as a sagacious editor of Plato's text, and a learned and acute commentator on the Fragments of the Early Greek Philosophers and on Aristotle's *Ethics*.

1. Prof. Burnet says: "He [*i.e.* the present writer] indeed thinks that it is 'going too far' to say, with Couturat, that the *whole doctrine* of *ἰδέαι* is mythical; but I do not see how he can escape that conclusion, or why on his view of myth, he should desire to do so". Surely it is Prof. Burnet who cannot escape Couturat's conclusion; for it is Prof. Burnet who says: "The relation of the individual soul to the Ideas *must* be mythically expressed". 'The relation of the individual soul to the Ideas' means, I suppose, our apprehension of them. *Quâ* apprehended by us, then, the Ideas *must* be mythically expressed, according to Prof. Burnet. Yet he tells us that "for Plato everything is mythical except the Ideas (and, in a secondary sense, the mathematical sciences)". This can only mean that *per se*, apart from our apprehension of them, they are not mythical. But surely, if they are mythical *quâ* apprehended by us, much more are they mythical *quâ* not apprehended by us—imagined—for we cannot say 'conceived'—as eternal substances existing *per se* in another world. As such they are indeed the creations of mythology which Aristotle seems to have found them. The truth is that in Prof. Burnet's view—that the relation between the individual soul and the Ideas *must* be mythically expressed—we have a striking instance of the confusion which comes of that neglect of the psychology and, consequently, of the methodological significance of, the Doctrine of Ideas which we have to deplore in so many of its scholarly exponents. The 'Ideas' in methodology are points of view, concepts-in-use, and the relation between the Man of Science and his conceptual instruments need not (although, of course, it may) be 'mythically expressed'; and, as a matter of fact, is so expressed by Plato only in a few passages (which it concerned me specially to notice in dealing with his Myths) against the many in which it is expressed in plain language—described as a case of coming to see that a particular 'participates in,' or 'resembles' its 'Idea'—as a case, that is to say, of discovering the hitherto unknown law 'involved in' the particular, or of recognising the particular as 'an instance' of the operation of a known law. So long as the methodological significance of the Doctrine of Ideas is neglected, so long will it be plausible to say with M. Couturat that the *whole doctrine* of *ἰδέαι* is mythical; and so long as the psychology of that experience for which the 'Idea' is a 'real presence' is neglected, so long will that part of the Doctrine which is really mythical be misunderstood—regarded either as 'Plato's fun'—Prof. Burnet dwells much on myth as mere *παιδιά*—or else as his bad science—which seems to be the view of Prof. Natorp.

2. Prof. Burnet says: "The Soul, the World, and God are the proper subjects of myth . . . not because, like the Ideas, they

belong to 'timeless existence' . . . but because they belong wholly to the world of becoming". Here again it is neglect of psychology —not, this time, of the psychology of the scientific faculty, but of the psychology of æsthetic and religious experience, which causes Prof. Burnet to fall, as it seems to me, into serious error. Regarded as belonging to the world of 'timeless existence'—that is, as objects of Contemplation for the subject of æsthetic and religious experience —the 'Ideas' cannot be otherwise described than in myth, any more than Soul, World and God can be otherwise described. On the other hand, regarded as the concepts-in-use by which the Man of Science makes *sensibilia* intelligible to himself and others, they cannot, without some exaggeration of language, be said to belong to the world of 'timeless existence' at all. They are merely *explanations*—explanations which are *always* found to be true—of things occurring in this temporal world—this world which, although it may be described mythically παιδιᾶς ἕνεκα, is certainly object of scientific knowledge—indeed the only object. It is when we go beyond this sensible world with its occurrences in time which our conceptual instruments enable us to explain scientifically, and begin to ponder 'things eternal,' that myth begins to be taken up, not παιδιᾶς ἕνεκα, or in any spirit of 'parody,' but in earnest. "Soul, World and God are the proper subjects of myth . . . not because they belong to timeless existence, but because they belong wholly to the world of becoming." On the contrary it is just because Soul, World and God are 'things eternal'—not things temporal to be explained by scientific categories—that they *must*, if set forth at all, be set forth in myth. Instead of saying, 'They are subjects of myth because they are temporal,' we ought to say, 'They are set forth as temporal when they are made subjects of Discourse'. In their case the Discourse is necessarily mythical because it cannot be scientific, not dealing with the occurrences of this sensible world which alone admit of scientific explanation. Prof. Burnet seems to me to take the meaning of the *Timæus* quite wrongly when he maintains that Soul, Cosmos and God really belong—are not merely represented in Discourse as belonging—to the world of becoming.

3. "The Good is known by Intellect alone." Of course this doctrine, attributed by Prof. Burnet to Plato, on the authority of such phrases as μέγιστον μάθημα, is not true. Modern Psychology, I take it, endorses Spinoza's "We do not seek a thing because we think that it is good, but we think that it is good because we seek it." The psychic state answering to the ultimate Good is not 'knowledge,' but the ultimate 'value-feeling' which consists in the massive satisfaction which the given Organism—Human Nature or any other—experiences in living its own Life—the satisfaction of the given Organism with the environment suitable to its Type. Plainly the suitability must exist before the feeling of satisfaction can arise. The 'Vegetative Soul' (which, by-the-bye, Prof. Burnet, in his reference to *Timæus*, 71 A-E, equates with the 'Sensitive

Soul') is fundamental.[1] Where 'Intellect' comes in is where *Means* conducive to the Type of Life posited as End by Organism are sought for. Now, I am far from wishing to argue that, because the doctrine which Prof. Burnet attributes to Plato is not true, he is wrong in attributing it. Plato may have held this erroneous doctrine, and there are, doubtless, passages which can be plausibly interpreted as showing that he did hold it. But unwillingness to believe that a man of Plato's calibre is wrong in a matter of such fundamental importance as the nature of our apprehension of the 'Good' makes one pause and look round for fuller evidence. This paper has already run to such length that I must not do more than merely indicate the results of my circumspection.

(*a*) In *Republic* 509 B, in the *locus classicus* about the ἰδέα τἀγαθοῦ, it is said to be ἐπέκεινα τῆς οὐσίας. Now οὐσία is the object of scientific knowledge. The Good, therefore, is beyond knowledge. It is assumed in knowledge: the assumption in knowledge is that its objects *are worth knowing*—that the knowledge of them conduces to the welfare of a Type of Life which posited itself as End before 'knowledge' entered its service.

(*b*) Again, in *Theætetus* 185 A-186 C, 'categories,' as we may call them, are distinguished under the two heads of οὐσία—Being, and ὠφέλεια—Value, and Good and Evil, Beauty and Deformity are placed under the latter head. Since the ψυχὴ αὐτή realises its 'categories' in judgments, we have here the distinction between 'theoretic' and 'value' judgments recognised as fundamental, and the *à priori* character of the two 'value-judgments' affirmed. In the *Theætetus*, then, just as in the *Republic*, the 'Good' is distinguished carefully from οὐσία the proper object of 'knowledge'.

(*c*) And what are we to think of Plato's insistence on ἔρως as indispensable to the pursuit of knowledge—φιλοσοφία? The 'Good' and the 'Beautiful' are objects of Knowledge only so far as they are indicated by Love. To say that they are "known by Intellect alone" is, I fear, 'not Platonic'.

I must not trespass any further on the Editor's valuable space,

[1] Prof. Burnet says: "The Vegetative Soul is confined to the feelings of pleasure and pain attendant on bodily evacuation and repletion". It is the Sensitive Soul which experiences these feelings. The Vegetative Soul is unconscious. But I am not aware that the distinction between Vegetative Soul and Sensitive Soul is anywhere formulated by Plato as it is by Aristotle. That Plato himself viewed Myth in connexion with what I call the 'Vegetative Soul,' I should no more think of asserting than I should think of asserting that Swedenborg himself referred his visions to the cause which the modern psychologist might find for them. My object was simply to ask my readers to look at Myth—especially as illustrated in Plato—in the light of a view of its nature and function to which modern psychology is now, for the first time, pointing; certainly not to suggest that Plato himself held that view. Hence Prof. Burnet's remarks: "Aristotle thinks more nobly of the 'Vegetative Soul' than Plato does," and "There is no trace in Plato of any such doctrine as Prof. Stewart's" are not to the point.

except to take note, in conclusion, of a statement made by Prof. Burnet which I cannot now discuss, but do not wish to seem to have overlooked: "If we are to understand Plato, we must start where he starts, with the reality of the intelligible; if we start from the sensible world, the way to the Ideas is barred, and we become involved at once in profitless discussions as to χωρισμός, the 'hypostatising of abstractions' and the like". To this I will only say that Psychology must see to it that 'starting where he starts' is not offering translation for interpretation.

J. A. STEWART.

THE NATURE OF TRUTH.

In a recent work,[1] Mr. Harold Joachim has examined at some length certain opinions held by Mr. G. E. Moore and myself. I propose first to discuss his arguments against these opinions, and then to consider briefly whether any arguments are possible which ought to appeal to both sides in such a debate.[2] The difficulty, as regards the second question, lies in the fact that our differences are so fundamental that almost all arguments on either side necessarily begin by assuming something which the other side denies. As Mr. Joachim justly observes: "If an assumption *is* the basis of all Logic, then arguments directed against it appear, by a very natural confusion, to be *eo ipso* devoid of logical cogency. The assumption, in fact, gets established by a kind of ontological proof" (p. 39). This state of things is very unsatisfactory, and it is highly desirable to find, if we can, some common ground on which discussion is possible.

The assumption which Mr. Joachim sets out to refute is that "experiencing makes no difference to the facts" (p. 33). What, precisely, this assumption is to mean will appear more clearly in the course of the discussion. Mr. Joachim distinguishes two senses of the assumption, one of which, he says, is true but irrelevant, while the other, which alone is adequate to support the theory he is combating, "is false, conflicts with common-sense, and is in the end unmeaning" (p. 41). In the admissible sense, the facts are only independent of the experience of this or that particular person, but not of "being experienced" in general. In the inadmissible sense, "the whole constituted by 'the facts' and 'experiencing' (in any sense of the term) is no genuine whole, but a mere external adjustment. The two factors are, or may be, related; but the relation when, or as, it obtains, leaves each precisely what it was, *viz.*, absolutely in itself and independent" (p. 41). We need not further consider the admissible sense, since, as Mr. Joachim contends and as I fully acknowledge, it is irrelevant to the discussion. As to the sense which he regards as inadmissible, his statement of it calls

[1] *The Nature of Truth*, Oxford, 1906.

[2] The relevant portion of Mr. Joachim's book is contained in pp. 31-50. The rest of the book avowedly assumes his opinion on the questions in dispute: it is only in these twenty pages that he seeks to establish his opinion. The views which I am defending will be found in Mind, N.S., No. 52, and in my *Principles of Mathematics*, especially §§ 55, 212-216, 424-428.

only for the remark that the whole which, as he puts it, "is no genuine whole," is as much a genuine whole as any that this theory will admit; for it is a characteristic of the theory that its views as to the nature of whole and part are quite different from those adopted by the school to which Mr. Joachim belongs.

Mr. Joachim's objection to this view comes to this: that if A is independent of B, A cannot be related to B; that, consequently, if the facts are independent of experience, they cannot be experienced, and nothing at all can be known. Thus he says (p. 42): "Greenness is, for the theory, an ultimate entity in the nature of things, which has its being absolutely in itself. How, under the circumstances, greenness can yet sometimes so far depart from its sacred aloofness as to be apprehended (sensated or conceived); and how, when this takes place, the sensating or conceiving subject is assured that its immaculate *perseitas* is still preserved—these are questions to which apparently the only answer is the dogmatic reiteration of the supposed fact." Mr. Joachim alleges that the plain man is on his side. I have been tempted to ask some plain man what he thought greenness was, but have been restrained by the fear of being thought insane. Mr. Joachim, however, seems to have been bolder. Considering the difficulty of finding a really plain man nowadays, I presume he asked his scout, who apparently replied: "Well, sir, greenness is to me the name of a complex fact, the factors of which essentially and reciprocally determine one another. And if you, sir, choose to select one factor out of the complex, and to call it greenness, I will not dispute about the term, for I know my place, sir; but as thus isolated, your greenness is an abstraction, which emphatically, in itself and as such, is not *there* nor *anywhere*." At least, this is what I gather from the opinion of the plain man reported on p. 42. "Who shall say," he concludes, "that *his* is the insight of a lying prophet, while *yours* bears the divine stamp of truth?" The answer to this question would require a whole treatise; for the present, therefore, I will confine myself to Mr. Joachim's contention[1] that *mine* is the insight of a lying prophet, while *his* bears the divine stamp of truth.

It is evident that the apparent force of Mr. Joachim's argument lies in the use of such phrases as "sacred aloofness," in which he assumes that if greenness is independent of experience, it cannot be related to experience. For I do not maintain that greenness, or anything else, has any "sacred aloofness"; I contend merely that there is such a thing, having various relations, among others relations of being perceived. Mr. Joachim's argument, in fact, depends upon the assumption that, in any complex, the constituents of the complex are nothing; *i.e.*, you cannot find an entity A, and say "A

[1] It may be objected that Mr. Joachim's position does not depend on mere "insight," since he has a criterion for deciding between rival insights. My reply is that his criterion is established by assuming his view on a logically prior question, and that this assumption is unsupported by the criterion to which it leads.

is a constituent of this complex". This view is connected with the opinion that all relations are based upon the "nature" of the related terms. Thus he says (p. 43): "Clearly, the sentience to which greenness can be related is 'vision,' not 'hearing'. But we are to understand that this restriction is not based upon the nature of greenness as such, but is just a fact." I do not know what the "nature" of greenness, as opposed to greenness, may be; it seems to be the ghost of the scholastic essence. This claim that relations are to be grounded in the natures of their terms is really a claim that all propositions are to be of the subject-predicate form, so that instead of saying "A and B have such-and-such a relation," we should say "A has such-and-such a property and B has such-and-such another; these properties being part of the natures of A and B". And as to the relation being "just a fact," so, on the opposite view, is the "nature" of greenness; for why should it not have had a different "nature"?

What emerges, in Mr. Joachim's discussion, is, as he himself points out, that the views he is attacking are only tenable on the assumption that relations are "external," *i.e.*, that there is no such thing as the "nature" of the related terms in cases in which these terms are simple, and that relatedness is no evidence of intrinsic complexity. This is the fundamental doctrine of the view which he is criticising; the opinion that "experiencing makes no difference to the facts" is merely a special application of this fundamental doctrine. Having brought the argument to this point, one expects to find reasons alleged against the doctrine in question, but strange to say, no reason whatever is given except that it seems incredible to Mr. Joachim. The curious thing is that, elsewhere, he protests against immediate inspection as a test of truth, holding that coherence in a system is both the test and the meaning of truth. Nevertheless, in this instance, although he admits later (*e.g.*, p. 178) that the system resulting from his assumption is *not* completely coherent, so that nothing except immediate inspection is left to recommend it, he is content to regard his view as firmly and irrevocably established by the fact that he cannot imagine it false.

But to support this statement, I will quote some of the principal sentences in the pages (pp. 45-49) which deal explicitly with this fundamental point. "That *any* Simples should combine" is "an arbitrary irrational fact, if it be a fact at all. . . . How can you treat them as each absolutely simple and independent, *and also* as related to one another to form a complex?" After setting forth that, in my opinion, "*the same greenness* and 'precisely and numerically the same' relations enter as constituents into an indefinite number of different complexes" (p. 47) he proceeds:—

"In this account of the union of Simple Entities to form Complexes, I can see nothing but a statement of the problem in terms which render its solution inconceivable. If you tell me that a penny in my pocket is 'the same' coin as a penny in yours, I agree that in a sense this is true enough. But if for the penny you substitute

a simple eternal entity, and then go on to maintain that this simple self-identical entity is both in my pocket and in yours, and also in no place and at no time, I can only protest that a simplicity of this kind is too deep for me to fathom. Nor does it make the least difference if you *call* your simple entity a 'universal'. And if, finally, you insist that the relation of the simple entity to the points of Space which are *my* pocket, is '*precisely and numerically the same*' as its relation to the points of Space which are *your* pocket, I must admit that I am unable to distinguish a 'precise numerical identity' of this kind from numerical diversity" (p. 48).

I have quoted this paragraph in full, because it contains the whole of what Mr. Joachim has to say on the fundamental question at issue.[1] He passes on immediately to other views, considering the view in question sufficiently refuted.

Before considering the main point, it seems necessary to clear up two misunderstandings. First, I should not say that a penny in your pocket was the same as a penny in mine, unless it was the same penny, *i.e.*, unless you had taken it out and given it to me. For a penny is a piece of matter, and its identity consists in being composed of the same particles. But the qualities in virtue of which we call it a penny (qualities which it may lose without losing its material identity) are, I should say, numerically the same in so far as they are not different qualitatively. Secondly, I do not maintain that greenness (*e.g.*), is "also in no place and at no time". I maintain that greenness can be considered without regard to the spaces and times in which it is, and that in so considering it we do not alter it; *i.e.*, it is possible in thought to isolate it, and in so doing we merely disregard its relations without in any way mutilating it itself.

Coming now to the main question, what is the essence of Mr. Joachim's contention? "In this account, . . . I can see nothing but a statement of the problem." "A simplicity of this kind is too deep for me to fathom." "I am unable to distinguish a 'precise numerical identity' of this kind from numerical diversity." The difficulty is that none of these are of the nature of arguments. They are simply statements as to what Mr. Joachim can or cannot imagine. It is, of course, implied that what he cannot imagine is nothing; but this can hardly be taken to be one of the fundamental premisses of all philosophy. The importance of the point is very great; for, except certain historical portions, and a few paragraphs at the end in which fundamental doubts are discussed, there is hardly anything in the book which does not assume that all the constituents of a complex must be complex. It seems a pity,

[1] There is also a note, p. 47 *n*, which offers me a dilemma; but this provides no argument, since the second horn of the dilemma (which is the one I accept) is refuted merely by the question: "How can it [greenness]—a simple numerically identical entity—enter into different existent complexes"? No attempt is made to show that it cannot: the impossibility is regarded as self-evident.

therefore, that no grounds whatever should have been alleged in favour of this view, except that to Mr. Joachim the opposite appears inconceivable.

The curious and discouraging thing about this dispute is, that conversely I cannot see what the 'problem' is which I am supposed to be merely re-stating. That the same man, in the strictest sense of the word 'same,' should be both the son of one man and the brother of another, or that he should be the brother of two men, or that greenness should have a resemblance to blueness and also to yellowness—such facts do not seem to me to call for any explanation. The demand for an explanation seems to depend upon some supposed law of sufficient reason—upon the notion that everything must have a reason for being as it is and not otherwise. Such a view can be supported by theism or by any teleological philosophy, though even then it is difficult to assign a sufficient reason for God. But apart from some such assumption, I cannot see why we should expect a reason for everything. And in spite of many efforts, I cannot understand why it should be thought that relatedness implies complexity; and, unfortunately, Mr. Joachim, though he holds that there is a reason for everything, does not offer any reason for his opinion about relations.

The arguments in the pages we have been considering are, therefore, such as will only appear cogent to those who already admit the conclusions which the arguments are intended to prove. This leads to the further question: What arguments, on such a question, are conceivable, which do not assume the question already decided? I think the only possible argument of this kind, on all fundamental questions, is some form or other of the *reductio ad absurdum*. That is to say, a position can be refuted in the eyes of one who previously held it if, assuming it to be true, and using only inferences of a kind which it admits to be valid, the falsehood of some essential part of the position can be deduced. This, of course, assumes that whatever implies its own falsehood must be false; but this assumption is made by all philosophers. The Hegelian dialectic is in part an argument of this nature: the inadequacy of the thesis is shown by the fact that it implies the antithesis, which is inconsistent with it. Mr. Joachim himself supplies an argument of this type, by showing that, if coherence (in his sense) is the essence of truth, then it cannot be quite true that coherence (in his sense) is the essence of truth. And if he had intended to refute the view of truth advocated by Mr. Moore and myself, it would have been necessary to accept it provisionally, and to have shown that it led to consequences inconsistent with itself. This method is, of course, difficult, because it is difficult to realise the position of an adversary so clearly as to be able to avoid assumptions which he rejects. And as against Hegelianism, at least in a form which it frequently assumes among its disciples, the method seems essentially incapable of employment. For wherever a contradiction is demonstrated, the Hegelian has only to raise an altar "to the Unknown Synthesis,"

and it is easy for him to show that, according to his philosophy, there must be a synthesis unknown to him as a finite being. Hegelianism is, therefore, not internally refutable, so long as it is content to admit that as yet it knows nothing at all—an admission which it is apt to make in its last chapters, but which never prevents absolutely certain knowledge that its adversaries are mistaken.

So far as Mr. Joachim's book goes, it would appear that the views advocated by Mr. Moore and myself are also not internally refutable: at least, this book does not attempt such a refutation. This state of things, it must be admitted, is very unsatisfactory, and seems to render the progress of philosophy almost hopeless. And at the best, even when the *reductio ad absurdum* can be successfully effected, its result is purely negative: it merely disproves some opinion, without thereby showing that some other opinion is right. It seems to me that the only hope lies in a more careful scrutiny of the premisses that are apt to be employed unconsciously, and a more prolonged attention to fundamentals, in the hope that gradually the area of agreement may be enlarged. Hitherto it has been the fashion to extol construction at the expense of criticism and analysis, and until very recently most philosophers have considered it an essential part of their business to provide something that could be called a proof of the existence of God. Hence premisses have been accepted at haphazard, almost without reflection; and attention has been almost wholly concentrated on results. This habit is especially fostered, it seems to me, by the Hegelian philosophy, which denies that it has any premisses, and therefore leaves to its opponents the task of discovering what its premisses are. In a work on "the nature of truth," one might have hoped to find some defence of the premisses; but at any rate it is a rare merit in Mr. Joachim's book that it makes some of the premisses explicit, which is perhaps as much as a philosophical work can be expected to do.

B. Russell.

VI.—CRITICAL NOTICES.

Some Dogmas of Religion. By JOHN MCTAGGART ELLIS MCTAGGART, Doctor in Letters, Fellow and Lecturer of Trinity College in Cambridge. Author of *Studies in the Hegelian Dialectic* and *Studies in Hegelian Cosmology.* London: Edward Arnold, 1906. Pp. xx., 299.

THE present work may be said to be a restatement, defence and development of those parts of the Author's philosophical system which bear upon questions of Religion, in so far as such a task can be accomplished without discussing over again the metaphysical problems dealt with in his previous books. He has apparently attempted in the present volume to place his views about Religion before the public with a minimum of metaphysical technicality. Dr. McTaggart is lucid even in the most abstruse and difficult of metaphysical discussions; in the present work lucidity is carried to a point which will probably ruin his reputation as a philosopher in certain circles—circles in which it passes almost as an axiom that lucidity or "apparent lucidity" is the unfailing note of "popular Philosophy," and should be left to the "metaphysical incompetent" victims of the "fallacies of the abstract understanding". Indeed, if Dr. McTaggart chanced to be theologically orthodox, he would be in great danger of being set down as a mere "Theologian," or, worse still, a mere "Apologist". From this last degradation he is saved by the fact that he is one of the few Metaphysicians whose rejection of Theism, even in its most pantheistic form, is absolutely undisguised and uncompromising. The fact is that, remote as he is from the position of orthodox Theology, Dr. McTaggart shares some of the mental habits and views of life which distinguish the typical Theologian—I will not say from the typical Philosopher, but from a type of mind frequently found among present-day Philosophers, especially in England, most of all in Oxford. He believes in the close connexion of theory with life; he believes in the necessity of a creed, a creed that can be lived by, and a creed which, if its ultimate grounds can be judged only by trained Metaphysicians, consists of propositions intelligible to the ordinary mind. He has none of that extreme unwillingness to make definite and unambiguous statements which characterises so much of the treatment of theological and religious topics by professed Philosophers.

Another characteristic of Dr. McTaggart's mind, very unfashionable at the present moment among Philosophers, is a firm and uncompromising belief in Morality. He holds that we have as little right to deny the objective validity of our moral as of any other class of our judgments, and remains unconvinced by the dialectic of Mr. Bradley and Prof. Taylor as to the alleged inconsistencies and irreconcilable contradictions in our moral ideas. Personally I am strongly disposed to believe that ideas which cannot be expressed clearly are not worth expressing at all. It is precisely Dr. McTaggart's combination of lucidity with metaphysical acuteness and thoroughness that seems to me to put him in the front rank of contemporary Philosophers. His lucidity is never made into an excuse for shirking difficult problems. It may be, indeed, that he does sometimes forget some of the limitations of human thought, and assumes too readily that there is no alternative between giving a completely adequate, coherent, and intelligible account of the nature of God, or the Absolute, and acquiescing in complete Agnosticism. But this is a fault on the right side. I regard the present work as the most formidable challenge that has for a long time been presented to the theistic Philosopher—all the more formidable because it is so largely based on the very premisses which most philosophical Theists accept, and because the controversy is carried on with much the same weapons as those which they are themselves in the habit of employing. Every one who is at all acquainted with Dr. McTaggart's previous writings will know that the creed which he proposes as a substitute for Theism is the belief in a personal Immortality without a personal God. The Absolute is a society of Spirits, who form a Unity but a Unity which exists only in its differentiations. It is clear that this position involves a repudiation of most of the commonplace anti-theistic arguments. Dr. McTaggart is as far removed from Materialism, Agnosticism, or any form —however disguised and attenuated—of Naturalism as the most dogmatic of Theologians, and far more so in reality than some Philosophers who use language about the Absolute which sounds not merely theistic but highly orthodox. All the more important is it that Dr. McTaggart's challenge should be taken up, especially by those who believe that truth is more likely to emerge from error than from obscurity. I need hardly say that in the present review I can do no more than indicate the main heads of Dr. McTaggart's argument, and in still fainter outline the sort of reply which, as it seems to me, might be made to them.

The first chapter is devoted "to the importance of Dogma". All the flimsy evasions by which people have persuaded themselves that it is possible to have Religion without Dogma are here subjected to a remorseless dissection. Religion is defined as "an emotion resting on a conviction of a harmony between ourselves and the universe at large," dogmas as "propositions which have any metaphysical significance" and religious dogmas as "propositions whose acceptance or rejection by any person would alter his

religious position" (p. 3). I will not stay to examine these definitions further than to remark that it seems to me that Dr. McTaggart only succeeds in making his definition of Religion cover all the systems usually called "religious" by giving the term "harmony" a very vague and elastic sense. Many religious systems do not believe in the existence or present possibility of such a complete harmony between the individual and the Universe as a whole; some of them hardly believe in its future possibility. In what sense, for instance, can it be said that a Christian who believes in everlasting punishment is or ever will be in a state of harmony with that portion of the Universe which consists in the souls condemned to such a fate, or with a Universe which contains such a very unreconciled element? I sympathise entirely with Dr. McTaggart's main conclusion that Religion is important, that it must rest upon and include dogmas and (as he shows in the following chapter on "the establishment of Dogma") that there is no way of evading the fact that these dogmas must in the last resort depend upon reasoned metaphysical thinking. (I could, indeed, have wished that Dr. McTaggart had used the word "doctrine" and left the word "dogma" to be used, as it generally is, for a definitely formulated doctrine sanctioned by some kind of authority. But that is a small point.) Neither Science nor Emotion nor Morality will answer the purpose of dogma. Religious questions are essentially, in the present state of human thought, "doubtful and controversial," but that cannot be helped. The fact that dogmatic Religion must rest upon propositions which are not universally agreed upon does not prove the possibility of an undogmatic Religion which will answer the purpose equally well and which contains nothing doubtful or disputable. The fact that a dogmatic Religion demands thought does not show that we must look out for the true basis of Religion somewhere else than in thought. In these days of Pragmatism, of Voluntarism, of Philosophies which tell us that we may believe just what we like, of Philosophies which pronounce knowledge to be necessarily false, and of Ritschlian and other Theologies which virtually base all religious belief upon emotion, it is refreshing to meet with a writer who does really believe in human Reason, in the possibility of attaining truth by hard and honest thinking, and in the duty of seeking to attain it.

In chapter iii. on "Human Immortality," we come to the constructive part of the book, and yet the argument of the chapter is still mainly negative. Dr. McTaggart's reasons for his own belief in Immortality rest upon the metaphysical system which he has expounded elsewhere. Here he contents himself with meeting objections. This he does largely by a clear and convincing argument in favour of Idealism. If Matter has no independent existence, the soul cannot be one of the activities of its own body. Now that a reaction in favour of Dualism seems to be breaking out in the heart of the Idealistic camp, I trust that Dr. McTaggart's succinct argument in this chapter against such a creed will not be over-

looked. In the next chapter, Dr. McTaggart argues that the belief in Immortality is better with a belief in pre-existence than without it. There is perhaps no great novelty in his arguments: it will be enough to say that the writer makes the most of his case. It may be unphilosophical, but I confess that no arguments that I have read succeed in removing the *prima facie* impression of something phantastic in schemes of pre-existence. Take such a passage as the following (p. 121):—

"On the theory of pre-existence such relations would naturally be explained by the friendships of past lives. The love which comes at first sight, and the love which grows up through many years in this life, would be referred to similar causes, whose similarity would account for the similarity of the effects. Each would have arisen through long intimacy, and the only difference between them would be that in one case the intimacy had been suspended by death and rebirth."

I confess that I see no *a priori* reason why one should not love really at first sight as well as "from long intimacy," nor does it make the phenomenon any more intelligible to me to be told that the subject of it had a previous acquaintance with the man or woman in another state. The body at all events must be in all probability different, and why should the present body have such a marked attraction for a man who had never seen that body before, and had forgotten his previous acquaintance with the soul in another state? Dr. McTaggart is sober and restrained in his speculations compared with some of those who have attempted to maintain the thesis of pre-existence—Renouvier for instance; and yet he does not altogether to my mind remove the impression that the theory of pre-existence involves us in a great deal of what one is tempted to call Mythology. I admit that Dr. McTaggart would score a dialectical victory if he challenged me to define what I mean by Mythology, and to show that his beliefs involve Mythology while mine do not. I mean the remark to stand simply as the expression of a personal impression, not as a refutation.

The chapter on Free-will seems to me perhaps the most convincing argument against Indeterminism and for "Self-Determinism" which I have ever read. It is also the clearest and most intelligible: for, clear as is Schopenhauer's treatise on the subject, we are told at the end of it that, though phenomenal freedom is an illusion, we are still to believe in "noumenal freedom," and for the explanation of that we are simply referred to Kant. The only possible criticism that I see upon the chapter is that any one reading it with no previous knowledge and no previous prejudices would probably think that the subject was wholly free from difficulty.

In the next chapter, on "God as Omnipotent," Dr. McTaggart comes to close quarters with his problem. With the chapter as a whole I find myself in complete sympathy. Sometimes, perhaps, the argument is pushed a little too hard. To call God's inability to

violate the law of contradiction a limitation upon Omnipotence seems to be using words in a somewhat non-natural sense. One can hardly quarrel with those who say that inability to do what is essentially unmeaning is not a limitation. At all events it is a limitation which has always been admitted, and avowedly admitted, by those who stickle for "Omnipotence"—admitted both by popular thought and by any Philosophers or Theologians of whom we take account. It is otherwise with regard to the limitations involved in the employment of means to an end:—

"We may go further than this. If a wise and good being has used means to an end, this is a positive proof that he is not omnipotent. For means are those things which have no worth in themselves, but which it is right to use because, without using them, some end which has worth in itself cannot be attained. Now there is nothing which an omnipotent God cannot do—otherwise he would not be omnipotent. He could get the ends without the means, if he chose to do so. And therefore it would be inconsistent with his wisdom to use them, since they are of no value except to get an end which he could get as well without them. In so far, therefore, as the nature of any fact in the universe suggests that it owes its existence to its utility as means for a divine purpose, it suggests, with just the same force, that the divine designer of the universe is not omnipotent" (p. 201).

Even here perhaps it is assuming too much to say that the use of means would necessarily imply a defect of wisdom, for the means may have a value, though they tend to produce something which has value too. Dr. McTaggart is on stronger ground when he contends that the means actually used in our Universe are plainly bad in themselves, and that we cannot doubt their badness without plunging ourselves into an abyss of scepticism, not only about Morality, but about everything else. Dr. McTaggart here definitely retracts a position which he himself formerly maintained:

"The existence of evil is beyond doubt in the sense that no one denies the existence of pain and sin in experience, and that no one denies that pain and sin are, from the point of view of ordinary life, to be considered evil. But it has been asserted that the universe, when looked at rightly, may be completely good. Sometimes the standard is challenged, and it is suggested that pain and sin are really good, though we think them evil. Sometimes our comprehension of the facts is challenged; it is admitted that pain and sin, if they existed, would be bad, but it is maintained that they do not really exist.

"The first of these alternatives means complete ethical scepticism. There is no judgment about the good of whose truth we are more certain than the judgment that what is painful or sinful cannot be perfectly good. If we distrust this judgment we have no reason to put any trust in any judgment of good or evil. In that case we should have no right to call anything or anybody good, and therefore it would be impossible to justify any belief in God, whose

definition includes goodness. This objection, therefore, cannot consistently be used, by the believers in an omnipotent God, against the existence of evil.

"The second alternative is one which can only be supported by metaphysical arguments of a somewhat abstruse and elaborate nature. To expound and examine these arguments in detail would take us too far from our subject. I will only say briefly that the theory of the unreality of evil now seems to me untenable. Supposing that it could be proved that all that we think evil was in reality good, the fact would still remain that we think it evil. This may be called a delusion or a mistake. But a delusion or mistake is as *real* as anything else. A savage's erroneous belief that the earth is stationary is just as real a fact as an astronomer's correct belief that it moves. The delusion that evil exists, then, is real. But then, to me at least, it seems certain that a delusion or an error which hid from us the goodness of the universe would itself be evil. And so there would be real evil after all" (pp. 208-210).

In the next chapter the writer proceeds to deal with the hypothesis of a non-omnipotent God. Such a God, Dr. McTaggart argues, must be either "creative" or non-creative; the conception of a non-creative deity—as maintained for instance by Prof. Howison—he holds to be the less difficult of the two. I may, however, be excused if I confine myself here to the author's argument against the idea of a non-omnipotent creative God; for he is here largely replying to a criticism which I had ventured to make upon his own theory of a non-personal Absolute consisting of human and other similarly limited spirits—spirits which are all alike uncreated and eternal. The gist of Dr. McTaggart's argument is contained in the following paragraphs:—

"The believers in the limitation of God's power assert that they have saved the possibility of his goodness, because it is possible that a non-omnipotent God might wish to make the universe much better than it is, and yet be unable to do so. That this is possible with a non-creative God, is, I think, beyond a doubt. But I am not so clear that it is possible with a creative God. It is quite possible, no doubt, that there are some things that the creator of the universe—if there is a creator—cannot do. But I cannot satisfy myself that it is possible that there could be anything which he willed to do, and which yet he could not do. And he would not be good—and consequently would not be God—unless he did will to remove the evil which he could not remove" (p. 224).

"But there is another very important difference between man and a creative God, even if that God is not omnipotent. No characteristic, and therefore no impotence, of a man can be explained entirely from his own nature. Nothing can happen in the universe which does not affect him, nothing can happen in him which does not affect the rest of the universe. And therefore when a man wills to do something and cannot do it, his impotence is never due entirely to his own nature" (p. 228).

"But God endeavours to produce whatever he wills antecedently. The defeat of an antecedent volition means a defeated effort. And what I am unable to see is the possibility of explaining the defeat of the effort solely from the nature of the being who made it. He only acts by his will. And if his will is directed to a certain end, can there be anything in his nature which can hinder its execution?" (p. 230).

Dr. McTaggart goes on to argue that to say that God is prevented from doing what he wishes to do by self-existent "laws" or necessities of things implies that we think of "the will of God and the law which prevents its realisation" as "so separate that their opposition appears to present no difficulty" (p. 231); whereas "a law is not another existent thing, apart from the thing of which it is a law, and capable of acting on it, as a wall may check the course of a bullet. The law is simply the statement of how the thing will act under certain circumstances. In other words, the law is not something which controls the thing's nature from without. . . . When we say that the law of the nature of wax is to melt at a certain temperature, this is not an outside authority to which the nature of the wax submits. It *is* the nature of the wax. And so the difficulty remains unsolved—how can God's nature at once impel towards an end and yet be the sole obstacle to his realising that end? Or again God's will and God's power are taken almost as separate beings" (p. 232).

God's Power or lack of Power is regarded as limiting his goodness. "But this view involves a disruption of God's nature which is indefensible. If there is a God, he is a person, and not an abstract quality. Still less is God to be resolved into a couple of abstract qualities which can be treated as opposing one another." And so on.

Doubtless there are difficulties in understanding how God's Power and his Goodness are related to one another. And Dr. McTaggart is the last man to deny that there are difficulties and unanswerable problems upon his own view of the Universe and upon every possible view. I admit that the limitations of human thinking compel us to oppose God's Power to his Goodness in a way which cannot possibly be a full and adequate representation of the Reality. But I am one of those who have learned from Mr. Bradley at least this much (and I do not doubt that so far Dr. McTaggart would agree with me) that all human thinking involves abstraction—the looking at different aspects of Reality apart in a way which cannot always fully correspond with their actual relations in Reality, as Reality would present itself to complete knowledge. I do not follow Mr. Bradley in saying that there are no relations in the ultimate Reality, but the relations between the various aspects or elements of that Reality cannot be precisely what they are in our thought. Take for instance the distinction between feeling and thought. Our thinking consists of clumsy processes of abstraction and inference. Such processes necessarily presuppose a limitation of knowledge.

We cannot make a judgment without Universals, and in a Universal much of the detail which exists even in our actual sensitive experience (to say nothing of an all-embracing experience) is necessarily left out. Every inference implies that we do not know already and immediately what we infer, and the inferred knowledge is a knowledge of what our experience would be in certain circumstances, while as a matter of fact we have not, and never, it may be, shall have that experience. We cannot suppose that in God the "that" and the "what" are thus divided; and yet we are forced to say that in the Divine Mind[1] "knowledge" and "feeling" are "somehow" combined. That "somehow" is no doubt a phrase which has been shockingly abused as a means for requiring us to swallow propositions which our Reason pronounces to be incompatible; but still in an attempt at an intellectual construction of the Universe we can none of us get on without it, not even Dr. McTaggart. In the same way I should fully admit that to say that God cannot do something which his Goodness would prompt him to do, and that he wills things in themselves evil as the means to the greatest attainable Good is an inadequate representation of the facts. But that is the only way of putting the matter which is possible to us. "Goodness" and "Power" are two aspects of God's Nature: we can only reconcile the dictates of our moral consciousness with the facts of life by holding that the one is limited, while the other is not. And is Dr. McTaggart's way a better one? It is true the goodness of his Absolute is not unlimited, but still it is very much in excess of its performances. Human beings are good enough to wish that the Universe were better than it is. Why is it not better? He can only reply that the nature of things—the nature of that Absolute which is made up of finite spirits—prevents its being so. It is true that the power of each of these is limited by the nature of the others: but it is also limited in part by its own nature. And by what is the whole limited? By what except its own nature? Why is one Mind unable to do all that its goodness would prompt it to do more difficult to conceive than a number of minds which, collectively and as a system, constitute all the Reality that there is, and yet, each of them individually and all of them collectively, unable to do all the good that they would like to do? There is the same collision between Power and Goodness in Dr. McTaggart's Universe that there is in the Universe of the Theist. All power must, according to Dr. McTaggart, reside in these spirits, and yet they cannot realise their own highest ideals: like the Theist, Dr. McTaggart is compelled to say that one aspect of the ultimate Reality prevents its being or doing what another aspect of that Reality would lead us to suppose that it would be or do.

So again, when Dr. McTaggart goes on to argue that it is not possible "that one member of a society should be *completely*

[1] Of course I am here bound to assume the validity of arguments which Dr. McTaggart does not recognise; the assumption is partly justified below.

perfect while others are not," and that there can be no unity in the Universe "if each is not helped by the perfection, and hindered by the imperfection, of every other," I should reply that Dr. McTaggart is simply transferring an argument based on the relations of human beings to one another to the relations between human spirits and a Spirit who must (if the theistic view is accepted at all) be in some respects very unlike any other Spirit. I should be far indeed from arguing that God has no need of the other Spirits whose being depends upon his: but I do not think that the fact of his having such a need is inconsistent with the idea that he is "perfectly" good, though I am not very fond of the word "perfect". When Dr. McTaggart goes on to argue that to say that God can be "completely good without being completely happy" is open to the objection that it is "a false abstraction to maintain that any cause can work an effect on one aspect of a person's life and leave the others untouched" (p. 254), it seems to me he is involving himself in a view of the Universe which would compel him to say that if there were one sheep less in the world than there is, it would necessarily follow that two and two could not make four—at least in the same sense and to the same extent that they actually do. This has been gravely maintained, but not, I believe, by Dr. McTaggart. In our experience very great but limited goodness is compatible with less than perfect happiness: I see no reason why God should not be imperfectly happy in so far as the evil of the world is not yet removed, or, in the knowledge that it will ultimately be so, be happy or at least be in a state in which the sharp antagonism between goodness and happiness which exists in us should be transcended. Such is the general line of the reply which I should make to Dr. McTaggart's objections. But it is obvious that the case for Theism could not be fully stated without carrying the war into the enemy's camp and asking which system is most in harmony with the whole of our knowledge. To my mind the greatest difficulty of Dr. McTaggart's view is that it does not satisfy the intellectual demands which Idealism is intended to satisfy. Dr. McTaggart quotes the following words of mine: "Mr. McTaggart (whatever we may say of the "Pluralists") feels that the world must be a Unity, that it consists not merely of souls but of related and inter-connected souls which form a system. But a system for whom? The idea of a system which is not 'for' any mind at all is not open to an Idealist; and the idea of a world each part of which is known to some mind but is not known as a whole to any mind is almost equally difficult. Where then, in his view, is the Mind that knows the whole? *i.e.*, the whole system of souls with the content of each" (p. 250).

This is his reply:—

"If there is no omniscient person there is doubtless a possibility that some things may exist which are not known to anybody—or, at least, not fully known to anybody. And in that case there can be nobody who knows everything—no one, that is, who knows the

system of selves in its entirety. And, again, an omniscient person might very probably be—though it is not certain that he would be—a person of such power and goodness as to be rightly called God.

"But I cannot see that it is at all necessary for an Idealist to admit that nothing can exist except that which is *for* a mind, in other words, except that which is known. There is, no doubt, a school of Idealism which maintains this. It has been maintained that to Be is to be Perceived, or that to Be is to be Thought. To such Idealism, certainly, Dr. Rashdall's argument applies. If all reality is a system, and if only that has being which is known, then some person must know the system, and so know all reality.

"There is, however, another form of Idealism—the form which seems to me to be true—which is not liable to these criticisms. This form of Idealism does not say that nothing can be real except what is known. It says that nothing can exist but persons—conscious beings, who know, will, and feel. . . .

"Now if we take this view, there seems no difficulty at all in saying that certain aspects of reality are unknown to every one. The theory maintains that nothing exists but persons connected in a unity. Accordingly, whatever exists must either be a conscious person, or a quality belonging to him, or an event happening to him, or else it must be one of those relations which connect these persons, and make up their unity. In the latter case, while it does not actually fall within any one person, it involves a quality which does. For if A and B are in relation, then A has the quality of being related to B, and B has the quality of being related to A. Thus there is no reality which cannot be expressed in a proposition about conscious persons. . . . In these cases something must be true about a person which he does not himself know, and in this event the form of Idealism which we are now discussing can offer no opposition to its being true without any one knowing it" (pp. 250-253).

Now I quite agree with Dr. McTaggart's representation of Idealism as the belief that "nothing can exist but persons—conscious beings, who know, will and feel". Matter is no doubt ultimately, in so far as it has any real existence, the experience of a person or persons. But after all Matter as an object of thought has got to be accounted for. Our Reason compels us to believe that things of which we have not had experience have some kind of existence. Every inference of Science implies the previous existence of things which were till then unknown and unexperienced by the individual thinker. And Dr. McTaggart admits that on his view they may not have been known or experienced by any other spirit whatever. Their actual existence in the past, as also the existence in the present of that part of the world which is at present unknown to any human or similarly limited spirit, is therefore reduced to a merely potential or hypothetical existence. The real meaning of saying that this planet was once in a gaseous condition

is that centuries afterwards spirits[1] then already in existence would come to think that, had they been there, they would have found it impossible to stand upon, very hot, and so on. Is this enough to satisfy the demand that our thought shall be true of an objective Reality? Does it not make our belief in the existence of Matter a delusion? I am not very fond of the phrase "subjective Idealism" as a term of abuse, for I find that, if it means anything but Sensationalism (from any taint of which Dr. McTaggart is certainly free), it is a term usually applied to all genuine Idealists by those Idealists who are not really prepared to face the difficulties of their professed system. But it does seem to me that those difficulties which Idealists usually dispose of by saying that they are only applicable to subjective Idealism exist in Dr. McTaggart's system to an exaggerated degree. I do not say that Dr. McTaggart's system involves a positive logical contradiction: but of all the possible ways of accounting for the facts of the Universe that are not capable of direct refutation, it seems to me the clumsiest and the most difficult—assuredly far more difficult than the Idealism which secures objective existence for the objects of our knowledge, even when and so far as they are unknown to any human being, by regarding them as existing in the experience of a single Spirit.

A full development of the argument for my own view and against Dr. McTaggart's would consist chiefly in bringing out these difficulties. I should insist particularly on the difficulty of holding that whatever exists (when not a person or a quality belonging to him or an event happening to him) "must be one of those relations which connect those persons, and make up their unity" (p. 252), since that involves the idea of a reality consisting (in part) of relations both terms of which are known to no mind whatever. One of the traditional arguments for Idealism has been that Relation enters into the very being of the things we know, and that we cannot attribute any intelligible meaning to the idea of a relation which has its existence otherwise than in a mind. This is an argument which Dr. McTaggart could not use; and, by giving it up, he weakens, as it seems to me, very seriously the case for his own idealistic creed, while involving himself in a position which most Idealists would find unthinkable. If it is difficult with the Materialist to think of an unthought relation as existing "in" a matter which is unthinking and unthought, I do not find it easier to understand a relation known to nobody between one term which is present to one mind and another which is present to another.

I must not now develop further the difficulties at which I have hinted. But I must briefly notice that in one respect—and perhaps one respect alone—Dr. McTaggart has not done justice to his opponents. Most of those who hold the Theistic Idealism which

[1] Of course these spirits might already have known something about a planet which they did not yet inhabit, but I do not understand Dr. McTaggart that all or any of them were omniscient then any more than now.

he is examining rest their case largely upon the contention that the idea of Causality is unintelligible apart from a Will. The successive events of the world—which are in Dr. McTaggart's view ultimately the successive experiences of spirits—must have a cause. Certainly many of them are not caused by the will of the spirits to which they occur or (so far as Dr. McTaggart's system requires us to believe) by the will of any Spirit. Hence on his system they are uncaused and unintelligible. Of course the ultimate Reality—whether that Reality consists of one Spirit which has no beginning and others which have a beginning, or whether it consists in a Society of Spirits all unbeginning—must be uncaused. But in Dr. McTaggart's system there are events which have a beginning and yet are uncaused. Dr. McTaggart would probably not accept the Metaphysic which recognises no true cause other than Will, but the whole aspect of the problem is fundamentally altered for those who hold that belief. If on other grounds theistic and what we may call social Idealism were equally probable, this consideration would by itself decide me in favour of the former. If the events not caused by human wills are caused by will at all, it is enormously easier to account for the unity of plan which the Universe exhibits as due to a single Mind and Will than as the result of the joint activity (a result hardly conceivable without previous deliberation) of many minds, each of them of limited power and limited knowledge; even apart from the fact that the ordinary phenomena of Nature are obviously not due to the action of any spirits with which we are directly acquainted. The hypothesis of many such wills, to say the very least of it, offends against the maxim, "Entia non sunt multiplicanda præter necessitatem". No doubt Dr. McTaggart is not technically a Pluralist: his Universe is a system. But so after all it is, or may be, for the Materialist. But for the Materialist it is a merely accidental or fortuitous system: it is simply an ultimate fact that the Universe happens to be of a kind which is found to be capable of being reduced to and understood as a system by the minds which it chances to evolve: what happens in it has nothing to do with the fact of its intelligibility or its systematic character. It is "rational" in the sense that it is capable of being understood; it is not rational in the sense of its being planned or organised by any mind: it does not express the idea of any mind nor is it grasped as a whole by any mind. Is the unity of Dr. McTaggart's world much more intelligible than that of the Materialists? He might reply no doubt that on the Theist's view God is not the result of any plan or idea. Every system must start with an uncaused Being or Beings, but in Dr. McTaggart's view it is a world of successive changes which is declared to be a "system," and yet which does not owe its existence to any mind, or present itself as a system to any mind, and which is not caused even by the minds which partially grasp it as a system. It is not merely a Being who is unexplained, but changes or events which are said to form a system, though they proceed from no mind for which they

are a system. Even if the idea of Causality is reduced to that of logical or necessary connexion, it is difficult to think of a connexion which exists neither in matter nor in any mind. Dr. McTaggart *asserts* the Unity of things as vigorously as can be desired: but the Unity which happens to be formed by a number of minds not one of which understands or purposes the plan of the whole is a Unity which is, to put it at its lowest, less easy to understand than the Unity which the Universe possesses for those who think of it as understood by a single Mind to whose will is due the existence both of the lesser souls which together with Him make up the whole and of those ordered procession of phenomena which are ultimately His and their experience.

In conclusion, I will only add that the book before us is one of consummate ability, which Philosophers of every school have got to reckon with.

H. RASHDALL.

The Nature of Truth. An Essay by HAROLD H. JOACHIM. Oxford: At the Clarendon Press. 1906. Pp. 182. Price 6s.

MR. JOACHIM deserves the thanks of all students of philosophy for having tackled so boldly a subject which is so rarely attempted in a spirit of thoroughness. Although there are few philosophers who have not given us their definition of 'Truth,' too many have found it easiest to slur over its difficulties with a convenient formula, which at best contained itself but the statement of the problem, not its solution. All the greater is the credit due to Mr. Joachim for his minute and searching analysis of some current theories of truth. And if he has offered us no new theory in the place of those which have fallen before his criticism, we have, perhaps, no right to complain. For it is something, as he pleads himself, to have cleared one's mind of false and ill-understood doctrines. It prepares the ground for reconstruction. And in this critical work Mr. Joachim has succeeded admirably. There seems no escape for those who hold the views he criticises, and his book should cause much searching of hearts in more than one philosophic quarter. No doubt, defenders will hurry to the rescue and attempt to patch up weak places. And we may expect in due course a stream of deliverances on the nature of Truth. Let us hope that her cause will be benefited thereby.

Mr. Joachim's book is full of good things. Chapter iv. on 'The Negative Element and Error' seems to me the best. But the second chapter, which criticises the theory that Truth is a quality of independent entities, is a very good 'second' indeed. It is refreshing to have Mr. Joachim's emphatic insistence on the *dynamic* character of the ideal. And no less welcome is his vigorous protest against the facile expedient of explaining away error as being merely imperfect knowledge. Indeed, the recognition that 'error is dis-

tinctively characterised by a discordance and a hostility which debar it from becoming merely a contrasting element within the developing system of knowledge' (p. 147) is one of the best points in the book. Mr. Joachim has faced the problem frankly and resisted the temptation to disguise from himself and his readers how deep-seated the trouble really is. Most monistic systems have come to grief over it just because they failed to appreciate the real 'sting' of the opposition between error and truth. In this connexion, one is glad to have Mr. Joachim's demonstration that a solution of the problem by means of *æsthetic* categories, as if error were like a musical discord necessary to the harmony of the whole, is no more satisfactory than any other (p. 145). Another welcome point is the declaration that Truth, without ceasing to be universal, not only *can*, but *must*, submit to be coloured by the 'intellectual individuality' of each thinker (p. 116). Many, however, will regard 'difference of emphasis' as too mild a term to describe the actual conflict of theories and creeds, though this is a fault largely remedied by Mr. Joachim's subsequent remarks on error. But the important question as to what distinguishes legitimate individual difference from error is not touched upon.

There is one striking omission which some readers will note with joy and others with sorrow. Pragmatism is dismissed in a few somewhat contemptuous sentences of the Preface.

For the purposes of review I prefer not to follow Mr. Joachim's own arrangement of chapters, but to treat chapter i. which deals with the 'Correspondence-notion' of Truth in its natural connexion with the 'Coherence-notion' in chapter iii. The criticism in chapter ii. of the theory that Truth is a quality of independent entities[1] is of special interest from the fact that the theory is maintained at the present day as a definite alternative to current Idealism by such skilful exponents as Mr. Moore and Mr. Russell. Idealism itself is, therefore, on its trial, since failure to overthrow the enemy's position would argue fatal weakness in itself. It may be prejudice on my part due to the fact that I have been brought up in the same school of Idealism as Mr. Joachim, but it appears to me that his dialectics are entirely successful, more especially his attack on Mr. Russell's difficult conception of a 'strictly logical assertion' as distinguishing true from false propositions (pp. 38 and 54). However I should say that Mr. Joachim's criticism would have been unnecessary but for the metaphysical and logical pretensions of the Independence-theory. If it claimed to be no more than a *methodological* device for separating the spheres of Psychology and Logic, it would be highly attractive. Such a separation, even though it be only provisional, is not merely possible, but for certain purposes necessary. It is as legitimate to study the psychological characteristics of such theoretical attitudes as Belief, Doubt, etc., without any reference to the par-

[1] For the sake of shortness I shall refer to this theory as 'Independence-theory'.

ticular content which is believed or doubted, as it is legitimate to study the psychological character of an emotion, like anger, without reference to the questions, what the anger is about, or whether it is justifiable. From this point of view, a distinction between the content of belief (the 'Propositions') as either true or false, and, on the other side, belief as neither true nor false but simply a psychological attitude towards true and false propositions, is surely defensible. But it is undoubtedly another question, whether the distinction can be made the basis of a satisfactory logical or metaphysical theory.[1]

And this leads me to another remark. To reserve the predicates 'true' and 'false' for the contents of belief, but to deny them to the belief itself, is at least a possible position to take up. But it seems to me to make for nothing but hopeless confusion to distinguish between the 'truth' of our belief, or truth 'as we apprehend it,' and the 'truth' of the content of belief, or truth 'as it really is,' whatever we may believe. And the matter is made still worse, if the truth of the belief is then explained by its 'correspondence' to the objective truth, or if, by a further refinement, the true belief is distinguished from our *awareness* of its truth, *i.e.*, of its correspondence to objective truth. I draw attention to this confusion because it is clearly present in such a passage as this: 'Truth is clearly independent. It has its own stubborn nature, to which our thinking must conform on pain of failure, *i.e.*, error. . . . It is to this independent entity that the judgment of this or that person must conform if *he* is to attain truth. Correspondence of *his* thinking with this 'reality' is truth *for him;* but such correspondence requires an independent truth as one of its factors and is not itself

[1] The meaning of 'Psychology' is so vague that I fear my plea for a separation of Logic from Psychology may be misunderstood. As must be clear from my description, the psychology which can abstract from the particular contents of belief, etc., deals merely with the general characteristics of certain classes of psychical phenomena. It is of a highly abstract kind. As soon as we come to deal with any concrete thought-process, it is impossible to neglect its content, and therefore impossible to keep the psychological and the logical point of view apart. On this point I heartily agree with Mr. Joachim (p. 179). For though, even here, it is still possible to distinguish abstractly the reasons why we *believe* a certain view to be true and the reasons why it *is* true, the distinction is mainly useful for those cases in which the reasons for belief are logically inadequate. But *where a true view is held with full insight into the reasons of its truth*, there surely all ground for the distinction has disappeared. This I take to be the meaning of the doctrine that Logic is 'more concrete' than Psychology. Logical affirmation, one might say, is psychological belief which is fully conscious of the adequacy of its own reasons. By the way, surely the much-maligned Pragmatists deserve some credit for their insistence on the close relation of Psychology and Logic, though they differ from others as to the kind of reasons that they regard as relevant to an affirmation of truth.

the essence of truth' (p. 20).[1] It is clear that 'truth' is here used in two senses: (1) for the relation ('correspondence') of thought to reality; (2) for reality itself, *i.e.*, for one of the factors in that relation. And this, plainly, makes nonsense. No solution of the problem of truth is possible as long as the word is used in two contradictory senses.

However, it may be said, that this is largely a question of words. If we put 'independent reality' for 'independent truth,' what fault have we to find with the doctrine? Is it not true, that reality is 'independent' in the sense of being 'discovered, and not invented'? And must not truth be found in some sort of relation between our knowledge and this reality?

This conception of the *independence* of the object of knowledge contains the most troublesome problem that the enquirer into the nature of truth has to face. For it is easy to put such a sense upon it, that the independence of reality comes into open conflict with its relation to our knowledge. It seems a plain contradiction to say that reality is knowable and yet unaffected by knowledge; and Mr. Joachim has an easy task in exposing the fallacy that 'experiencing makes no difference to the facts' (pp. 39 ff.). And yet, however triumphant Mr. Joachim's dialectics may be, one cannot help feeling that he has gained a somewhat barren victory. One may agree that independence in the above sense is untenable, but independence in *some* sense exists. That conviction remains unshaken. An inadequate formulation of it has been destroyed, but its real nerve has not been cut. The problem would be to discover the sense of independence which is tenable. And it may be said that, after all, the results of Mr Joachim's examination of the 'coherence-notion' (to which he himself inclines as, at least, more adequate than any other) bear witness to the 'independence' of reality. For is he not forced to acknowledge: "Still 'the scientific mind' is *over against* a reality to be known, and its 'concrete thinking' is *about* something other than the thought" (p. 116)?[2] And does he not revive the doctrine of Mr. Bradley's Logic, that the content of thought is adjectival, divorced from substantial reality? Absolute independence may be contradicted by the fact of knowledge, but relative independence there must be; and if we could but succeed in defining it, we might hope to get a step nearer to the solution of the problem.

'The facts are unalterable and given. They control our Science.' That is a common way of expressing the independence of reality. And the familiar reply, of course, is that the distinction of fact and theory is futile, and that 'the Science includes all relevant facts'. For we cannot know what the facts really are until we know all

[1] The confusion is not due to Mr. Joachim who in the passage quoted is merely reporting a 'familiar distinction'. Besides, his own remarks on pp. 68-69 implicitly condemn the confusion.

[2] Italics by Mr. Joachim. This remark applies to *all* quotations, unless otherwise stated.

about them, so that the full fact emerges only with the full theory. But the reply, true as it is, is off the point here. For the problem breaks out afresh within the meaning of fact, at whatever level of knowledge we take the facts. It is true that we can speak of the facts only as we know them; it is true, also, that ideally and in principle there is no conflict between the nature of the facts and our knowledge of that nature. Reality, we may say, *is as we know it to be*. But even so, *reality never is our experience*. All reflexion on knowledge, so far from closing the chasm, seems but to keep it wide agape. And that, I imagine, is the reason why we meet so frequently with appeals to 'immediate experience,' intuition, in short to some kind of unreflective union of the knowing mind with the object known. But reflective analysis seems to yield this result: I am aware of a 'fact,' I may be aware of it even 'as it really is,' but for all that, my experience *is not* the fact. It is a fact of its own, different from the fact which is its object, 'about' which it is. It is a qualification of my existence, it exists as 'my' experience. And yet it reveals to me the nature of something else that exists or is real in the same sense in which I exist or am real. And that which thus exists remains distinct and 'independent'. The independence of reality, then, would appear to mean that it is not 'mine' in the sense in which the experience of it is 'mine,' *viz.*, as being a qualification of my existence. For, be it observed, the content of the experience does not qualify me (except where I am my own object) but qualifies the object. It is all paradoxical enough, even when we assume a condition of perfect knowledge. But the paradox increases tenfold when we reflect, that our knowledge is not perfect, and that the content which qualifies the object may be 'true' or 'false'. If it be false, we seem driven to say that the object must have a character of its own which excludes and contradicts the character that our experience attributes to it, and yet, at the same time, we must be *unaware* of this conflict. This is a point which Mr. Joachim rightly emphasises. The real sting of error lies *in that we accept it as truth*. In true experience the content of our experience and the character of the object are somehow identical, however hard we may find it to formulate this fact intelligibly. But in error this identity has disappeared without our being aware of the break. And when the discrepancy comes to be detected, and the error to be recognised as error, we cannot say that it was merely imperfect knowledge. For error is not merely *lack* of knowledge, it is, if I may be forgiven the bull, *false* knowledge; it contains elements not simply absorbed by the better insight. And this is the feature which it is so hard to account for, and the necessity of which is a problem which Mr. Joachim hands over—without much hope, one suspects—to Metaphysics. In fact, error is but the extremest form of the division between subject and object, which thus re-emerges at the end of the book as the fundamental problem still unsolved. As long as the division cannot be overcome, as long as knowledge is

'about' an object, every theory of truth as 'coherence' lapses back into a theory of truth as 'correspondence': "every theory of the nature of truth must itself be 'about' truth as its Other; *i.e.*, the coherence-notion of truth *on its own admission* can never rise above the level of knowledge which at best attains to the 'truth' of correspondence" (pp. 174, 175).

The book thus ends with the conclusion that we must look to Metaphysics for a satisfactory theory of truth. Whatever the merits of that conclusion may be, I do not feel satisfied with the way in which Mr. Joachim reaches it. Let us follow his argument. Chapter i. criticises the correspondence-theory of truth by showing that correspondence is valuable only as a symptom of systematic coherence. Chapter iii. defines systematic coherence as the characteristic of a 'significant whole,' such as *e.g.* a science or branch of philosophy. It is then shown that such a whole cannot be a chain of judgments depending on a single immediate intuition (Descartes); and that its coherence must be more than formal consistency. And next, with a surprising turn, we hear that a significant whole is 'an organised individual experience, self-fulfilling and self-fulfilled' (p. 76). The leap from 'a science' to a 'self-fulfilling and self-fulfilled experience' is hardly quite clear. Still, the reader might be willing to agree on reflecting that a science is not a collection of dead information, but a living and growing body of knowledge, in which facts and theories mutually support each other, and in which each judgment depends for its full meaning, and hence for its truth, on the whole 'background' out of which it emphasises a particular feature, or on the whole system of knowledge embodied in the science. And this interpretation would agree well enough with Mr. Joachim's insistence on the dynamic character of his ideal of truth: 'it is this *process* of self-fulfilment which is truth' (p. 77). However, the hopeful reader is doomed to disappointment. For it appears that the ideal does not refer primarily to the truth of human knowledge, but to an 'ideally complete experience' (p. 78); that there can be 'one and only one such experience'; and that it is 'from the point of view of the human intelligence . . . an ideal which can never *as such*, or in its completeness, be actual as human experience' (p. 79). In short, we find ourselves presented with a *purely metaphysical* theory of truth. Mr. Joachim does not emphasise that point at the time, but it is clearly admitted later on (p. 169); and indeed it must have been obvious to every philosophically trained reader. The next problem, clearly, is to show that this ideal, metaphysical as it is, has a positive bearing on human knowledge. And by an examination of different kinds of judgment, Mr. Joachim attempts to argue that the truth of no single judgment is contained within its four corners, so to speak, but requires to be expanded into a system of knowledge which in turn borrows what truth it possesses from the ideal experience. However, this attempt fails, on Mr. Joachim's own admission. And the reason is twofold: (1) the

'system' into which each judgment is expanded is a static and not a dynamic 'whole' as demanded by the ideal (p. 114); (2) it turns out that the ideal experience is a 'significant whole' in a *different* sense from the significance of a science. For the ideal experience is 'substantial reality itself in its self-fulfilment' (p. 117), whereas the content of a science is, after all, subjective in that it is 'about' reality, and is not reality itself. And thus the back of the coherence-theory is broken on the Dualism of knowledge and reality.

Now the point in this argument of which I complain is that Mr. Joachim passes from the conception of science to the conception of the ideal experience by means of the fact that they are both 'significant wholes'. But in the end it appears that they are significant wholes in different senses, so that the link of connexion is plainly broken, and the legitimacy of the derivation disappears. And though Mr. Joachim may reply that the difference points to an underlying unity, and that, after all, our finite knowledge must be an element in the 'substantial life' of the ideal experience, yet this is just the very problem which Mr. Joachim does not solve; and until a solution is forthcoming, we may fairly challenge his right to argue as if it were already established. Or to put the same criticism in different words: there is no objection to a metaphysical conception of the ideal, provided it is established by metaphysical arguments. But under cover of the ambiguity of the term 'significant whole,' Mr. Joachim passes from the *logical* standpoint of science with its implied Dualism to the *metaphysical* standpoint of the Absolute which denies that Dualism. And since he approaches his ideal in this way, it remains a conception insufficiently justified and supported. For not only does Mr. Joachim's attempt to show that the ideal holds good for human science admittedly fail, but one is surprised to find that Mr. Joachim straightway lays the fault at the door of human experience, and denounces the Dualism of current Logic. He never seems to consider the other alternative, *viz.*, that his conception of the ideal might be defective. His attitude becomes intelligible, when one recollects that the ideal rests on metaphysical arguments. But these are just the arguments which the book does not give.

All this is the more to be regretted as Mr. Joachim's conception of a 'self-fulfilled and self-fulfilling experience' might fruitfully have been applied to science, if we regard it, as I indicated above, as a 'living and growing body of knowledge'. The obnoxious Dualism of subject and object need, perhaps, not have been touched on at all, but instead the aspect of *progress* in knowledge, which in a very real sense is a 'self-fulfilment,' would have received the attention it deserves. One could have wished that Mr. Joachim had not relied for his illustrations on such stale examples as '$3 \times 3 = 9$' or 'this tree is green,' but that he had obeyed his own hint (p. 98) and by an analysis of some scientific problem recently settled or even still *sub judice* enabled us to steal a glimpse into the workshop of the mind, and to watch how 'truth' emerges

through its determined efforts. The adjustment of new and old in such a case, the process of verification—without an analysis of which, by the way, it is impossible to do justice to the function of sense-perception in knowledge—the direct contact of the mind with reality, would have thrown a fresh and vivid light on the many good things that Mr. Joachim has to say on the place of 'apperceptive character' (pp. 93 ff.) and systematic coherence in knowledge. It is just at the fringes of knowledge where truth is in the making, that both the union of knowledge and reality and the danger of their divergence are most vividly realised, and most fruitfully studied.

Besides, if Mr. Joachim had paid more attention to this aspect of the problem, some kindred questions, now not touched upon, would probably have found mention. For instance, the *non-cognitive* kinds of experience and their relation to cognition present some problems which it would be profitable to discuss and which are overmuch neglected; *e.g.*, dreams, creations of the imagination, etc., resemble cognitive experiences in that they are qualifications of the subject's existence (*his* experiences), whilst they also possess content or have objects. Yet they are not embodied in the structure of what we commonly called the 'real' world. They are treated as having no cognitive value at all; and the fact that they are neither 'true' nor 'false' distinguishes them from errors, *i.e.*, from experiences claiming cognitive value without possessing it. The principle on which we distinguish those experiences that belong to knowledge from those that do not is not easy to find. And, in any case, what would be the relation of these non-cognitive experiences to the ideal experience which Mr. Joachim postulates as an implication of human cognition?

It seems almost unfair to suggest additional problems where Mr. Joachim has given us so much that is stimulating and instructive. Would that philosophers enjoyed a poet's licence of solving all difficulties with the magic of an inspired phrase. Then they might avail themselves of Goethe's magnificent phrase: 'Phantasie für die Wahrheit des Wirklichen' which joins all jarring elements in harmony and peace. As it is, they must labour by intellectual effort to beat out a satisfactory theory. Towards that end Mr. Joachim's book will be a valuable help, 'clearing the mind of much sham knowledge,' and awakening fresh reflexion on problems to which we are but too apt to apply the maxim about 'letting sleeping dogs lie'

R. F. Alfred Hoernlé.

Note.—For a further criticism of Mr. Joachim's work see Discussion by Mr. Russell in the current number of Mind (p. 528).—Editor.

The Metaphysics of Nature. By CARVETH READ, M.A., Professor of Philosophy of Mind and Logic in University College, London. London: Adam & Charles Black, 1905. Pp. viii., 354.

NOTHING has been more unedifying in the course of philosophy than its neglect of Nature, unless it has been the arbitrary manipulation of the concept of Nature to suit the ends of some system. Prof. Read will have nothing to do with "conceptual systems used to discourage sense-perception as an illusion and a deceit, where data and verification are supposed to be sublated by an hypothesis that derives from them its whole validity". In the present volume, which deals with the Metaphysics of Nature as Nature is presented in science and experience—leaving for future consideration the human ideals expressed in Polity, Religion, Art, and Virtue—there is a sturdy effort to re-establish a sound Empiricism along with the recognition of a Transcendent Reality. The Categories take their rise in human experience, and their abstract deduction is impossible. "We must begin with experience, since otherwise there is no problem; and return to experience, since otherwise no solution is made good; and proceed on the analogy of experience, since otherwise there is a failure of that continuity and resemblance in which explanation consists. . . ." As regards the Transcendent World, we are limited to some fair, but imperfect, because unverifiable inferences to it from things more distinctly known. The chief concepts of the Transcendent World—Substance and Idea—are not so much concepts of Science and Knowledge as of that background of Belief out of which Knowledge has been differentiated, as Science has been out of Knowledge.

Belief, Prof. Read defines as the subjective acceptance of Reality: whatever we believe in is regarded as grounded in or corresponding with Reality; and whatever we take to be real is thereby an object of Belief. He considers that the difficulty of accepting Hume's doctrine of Belief disappears if Reality is based upon what we *all* feel with "force," "firmness," "steadiness"; and his whole superstructure is based upon common-sense assumptions: for is not criticism as well as belief antecedent to philosophy? (p. 14). As to how far Belief is, or may be co-extensive with Reason: If we suppose Knowledge and Belief completely organised into sciences attaining the precision and coherence of Physics (especially if they should have become branches of Physics) this body of knowledge, starting from Empirical Reality, coherent and harmonious in all its judgments and verified in Empirical Reality would constitute Positive Philosophy and would be felt to be necessary truth. Pragmatism is, indeed, the natural remedy for Scepticism, but must avoid any expression seeming to imply that the survival of a belief merely connected with successful action, without clear and coherent cognitions concerning it, is a guarantee of its truth (p. 92). Reality is that of which Truth is a more or less adequate re-

presentation; or Truth is the correspondence of cognition with Reality, and if truth implies the possibility of error it cannot be an attribute of the Divine mind.

There are more recent and more searching discussions of the criterion of Truth than Prof. Read's; nor can the discussion of Belief be regarded as contributing so much of logical or psychological moment, or even as quite free from objection. The statement that Hume says that Belief always attends the memory and the senses (p. 9), surely requires some qualification. Hume said that the belief or assent which always attends the memory and senses is nothing but the vivacity of those perceptions they present, and that we are frequently in doubt concerning the ideas of the memory as they become weak and feeble. Again there seems too facile an acceptance of "feeling" as an adequate characterisation of Belief. This is a very insufficient analysis of the psychical process referred to, which, although apprehended with the immediacy of sensation or feeling, is really a complex process analogous to that accompanying the employment of words, the sense of which we understand without reduction to presentations. Every belief is referable to a system of beliefs, and any belief stands for a process ultimately embracing whole series of ideas. When Prof. Read says, "Will it not be always true that in giving reasons for a belief mankind must point at last to some of its causes?" we may ask if cause and reason need be mutually exclusive? And again when he says, "An intuitive axiom is a general judgment concerning ultimate unconditional truth," I press for the meaning of "unconditional".

What Prof. Read has to say regarding Nature, or previous efforts to interpret it, may be briefly stated thus. We encounter it as a pre-formation, the perception of which, corresponding to stable nervous growths, precedes the personal life (p. 126). A Universal Unity of Apperception does not explain the reciprocity and causation of things in the World, but must rather be explained as the result of them. To speak of Nature as the Universal Reason or Thought is an abuse of language, which does not give us the differential characters of inorganic Nature, or explain the fact of Empirical Reality, where thought and sensation meet in the perceptions and experience of normal men (p. 165). Nature is no mere system of relations that at the last relate nothing; there must be terms for relations to relate. The concept of relation is free from internal contradiction, and farther than the relation of terms analysis cannot reach. Consciousness does not express or comprise the whole of Reality: there remains a surd of analysis, a perdurable somewhat, independent certainly of our private minds (p. 160), and Prof. Read neither denies the "thing-by-itself" nor glories in its incognoscibility. There are fundamental relations in which the thing known may agree with the cognition of it through phenomena. Knowledge is consciousness, and if there is anything other than consciousness, the knowledge of it can only be a representation in consciousness. Now the

growth of such representation in life and mind, Prof. Read takes to be a function of the evolution of Nature; and it is a true knowledge of Nature, because it is her self-knowledge (p. 135).

The real nerve of Prof. Read's book is a conviction regarding Ultimate Reality, to the exposition of which he gives much space, and to which he always returns, although his theory of Reality is bound to be defective, because it cannot realise his ideal of knowledge, and because all discussion which excludes the Philosophy of Ideals is radically imperfect. Briefly his position is this: In our own consciousness we have an immediate knowledge of Ultimate Reality, while Empirical Reality, including our own bodies and the external world, "manifests" Ultimate Reality in a system of phenomena constructed in consciousness. Reality is universally conscious, but its whole Being cannot be fully expressed by consciousness, and as to the remainder it is transcendent, to be understood partly from the laws of phenomena which represent it objectively, and partly from the laws of consciousness, which is Reality itself, subjectively conditioned, not its representation. In Empirical Reality matter and consciousness are contrasted areas of consciousness itself; in the world as conceived by scientific thought matter is reduced to certain quantitative aspects of objective consciousness; but in Ultimate Reality matter has no place, being a phenomenon or representation of that Reality, so far as Reality is not consciousness. It follows that the concept of Ultimate Reality contains a duality, namely, Consciousness and the Transcendent Being or Idea that is conscious (p. 115). We must then recognise the new indicative, orective Category Manifestation; and it is not unreasonable to transfer to the transcendent term of this one-sided relation some of the forms of Subjective Reality, if not also of those of phenomena in Space (p. 153). As the form and enfoldment of all possible experience, Time is another name for the Universe in its everlasting movement; although less clear and distinct, it is more comprehensive, more real than Space, for Space is only the form of phenomena, but Time of all consciousness, and consciousness is Reality (p. 178). We have no grounds for denying that consciousness may be a continuum rising under special conditions at points into special fulness, the growth of the body offering the best analogy for the corresponding growth of mind. To explain the individual as self-conscious reason arising in the course of Nature by natural laws is also to guarantee the reality of the World, and to recognise the World as the ground, the measure, the law, the judge, and in every way the superior of human reason (p. 260). As regards the ontological suggestions of this volume—where concepts fail, there is an impulse of imagination to supplement the quasi-intelligible, which likewise fails, but is, so far as it goes, materialistic. But Material-Spiritual is a crude, strained and indefensible hypothesis. Neither can give any account of perception or volition; whereas, on the hypothesis that there is an intimate parallelism between consciousness, considered as an

"activity" of Being, and the rest of Being which is manifested in phenomena they may be accounted for. For the "interaction" of the heterogeneous "parallelism" is too diagrammatic; for psychological purposes "correlation" is enough and to be preferred (p. 333). Volition and the laws of phenomena are manifestations of the same Being, it is an activity of the same order and universality of character as manifested by the laws of Nature . . . "the future of the world at any moment depends upon the combination of existing agents and of these agents each man is one". His actions follow upon his character by necessity, but because he acts according to his character—that is according to his body—he feels himself free. The necessity of the action is precisely what makes it his own. "Thus the Categories of Possibility, Impossibility, Contingency, Necessity, have only subjective value" (p. 279); ". . . the past or future has existence neither more nor less than the present . . . they exist or are real by universal integration or continuity" (p. 280). "Want, insufficiency, inferiority, something unattained, can never characterise the universe, if you say with Spinoza, *per realitatem et perfectionem idem intelligo*" (p. 341). "In the inwardness of Nature physical and final causes may be the same principle" (p. 346), but Prof. Read cannot help feeling that the doctrine of Final Causation, like Transcendent Being, "remains a merely indicative, orective Category. The adaptation of organisms is a fact; and, so far as we can follow the history of the World from age to age, its gradual rise to self-consciousness is a fact; but the teleological interpretation of all this baffles our understanding."

Prof. Read carries one along with him a great way, but perhaps most people soon foresee that the end of the whole matter is likely to be very unsatisfying and inconclusive. If I were to indicate with one word the dissatisfaction I feel with his *method*, I should say it was too impersonalistic. Prof. Read might have found his best point of departure, after all, not from what we *all feel* but from the reflexive knowledge of man. That yields us the concept of that which maintains itself in constant change, a being that is at once the origin and goal of activity; and it might throw light on a world of individualised existences, even on the relation between mechanism and teleology. But in Prof. Read's speculations reflexion plays a scarcely less spectral part than that assigned to the Divine Consciousness. As to his result: his Transcendent Being is something out of all relation to the World, making no manner of difference to scientific or practical judgments. This being so, and the result is very disappointing, Prof. Read's displeasure with the doctrine of interaction strikes one as excessive. He is anxious that his own doctrine of "correlation" should not be confounded with parallelism as a metaphysical theory, for that makes the mistake of treating consciousness as a phenomenon. His parallelism is "between consciousness and the rest of Being which is manifested in phenomena" (p. 240). The practical

difference is negligible, and parallelism is treated lightly as a "fiction," "unavailing in a region where none of our terms can b just"; whereas interaction is "the greatest absurdity that speculation has adopted from popular delusions". That is both ar fictions, and when one simply intends to employ that which gives the best account of Empirical Reality the "absurdity" of interaction is far from evident. With Prof. Read, as always, the employment of parallelism as a regulative principle seems inseparable from its enforceal as a dogmatic doctrine. Moreover, I canno see that he has more than assumed that Transcendent Reality must have manifested itself to consciousness in physical phenomen ("... by his body man is a cause in Nature to the full extent of his Reality" (p. 340)), and I do not know that interaction has much to fear from the study of the physiological processes accompanying mental life, which he so warmly recommends, for that seems to leave doubt whether physical causes are sufficient to account for non-voluntary let alone voluntary attention.

In conclusion I should just like to say something regarding Possibility in relation with Prof. Read's view that "Eternity is not a state of Being, but a Law; and Reality is essentially a process in Time, as witnessed by the nature of consciousness" (p. 347). I feel strongly that Prof. Read is only emphasising one side of Reality and of the Truth, and that there must be another somewhere in the form of an immediate consciousness of the whole temporal process, but perhaps, in the meantime, there is more reason to emphasise the side he exclusively considers. Some explanation must be given of the incessant refashioning of itself on the part of Reality, which for Prof. Read is something more than a mere temporal manifestation of a timeless Reality, being something actually occurring in Ultimate Reality. As we have seen he gives the problem up, and he considers the suggestion that the Universe corrects errors and "staggers forth to some remote accomplishment as only fit to be put into the mouth of one's opponent in a Dialogue". What if the Finite Sphere is that of the realisation of infinite possibilities? Reality is always systematic, but to human reflexion, at least, the present systematic adjustment of the innumerable differentiations of Reality must appear a vast improvement on that existing in the nebular mist, and how this is to be conceived or described except as the realisation of a higher possibility, I do not know. What if change be conceived as the realisation of internal possibilities of systematic structure, and related to the most perfect possible structure as to a Final Cause? All human effort worth expending is directed upon an increasingly perfect adjustment of those elements of Reality over which it has control, and it often errs by developing wrong possibilities, for these in the practical sphere are emphatically not nothing. Perhaps when the finite and relative sphere, where we see this phenomenon, had accomplished its task it should have ceased to be such. Only Perfection is indeed Reality, and modes of Being short of that must pass away.

More than enough has been said to prove that Prof. Read's position unites interesting historical relations with strong originality. The freshness and vigour of his thought deserves every recognition, and if we have to pardon him, as he does Spinoza, for indulging a turn for style once in a hundred pages, the general care and distinction and even charm with which he has expressed his thought make the reading of a really important work a very pleasant duty. It is the earnest desire of the present writer to commend it to the notice of any one who may as yet have neglected it.

DAVID MORRISON.

La Misura in Psicologia Sperimentale. By ANTONIO ALIOTTA, Professor of Philosophy in the Royal Liceo at Lucera. Firenze: Galletti e Cocci, 1905. Pp. 253 and 1 plate.

THE text of this interesting work is Kant's assertion that psychology can never be a true science owing to the impossibility of giving it a mathematical treatment. The book is divided into four parts (the last being extremely brief), which the author entitles psychophysics, psychochronometry, psychodynamics and psychostatistics, respectively. Of these the first and second are by far the best written, and will receive examination here.

The first question which the author raises concerns the intensity of sensations. "We say that one red is more extensive than another just as we judge that one red is more intense than another. But are we justified in concluding, from this common-sense dictum, that a colour sensation considered as a psychical fact, can be more or less extensive? Certainly not. The statement that sensations have a certain character of extensity (*spazialità*) or intensity, must not be confused with the statement that sensations are more or less extensive or more or less intense. In speaking of the representation of space, all psychologists clearly distinguish between these two meanings, calling the one extensity (*spazialità*), the other extension (*estensione*); but owing to the lack of two appropriate words, some ambiguity generally exists as regards intensity. Nevertheless the two statements have admittedly a different value. It is one thing to say that a sensation is more or less intense: it is another to say that it has a certain character by virtue of which it can be placed in an intensive series. In the one we grant forthwith that sensation is a quantity susceptible of measurement: in the other we assert that a sensation is simply a qualitative entity, possessing a certain aspect, a certain colouring, whereby, when conjoined with other sensations of like kind, and elaborated with more highly developed processes by consciousness, it can afford a representation of the intensity of external phenomena" (pp. 49, 50).

Whereupon Prof. Aliotta develops the following argument. "Sensations can have only that intensity with which they are ex-

perienced" (p. 54). Introspection teaches us that sensations differ in intensive chararacter, not in intensive quantity (p. 56, footnote). Quantity, both as regards extent and as regards intensity, is an effect of psychic synthesis, formed on the basis of the qualitative differences in extensity and intensity possessed by sensations (p. 52). Hence from the psychological standpoint sensations are without magnitude and are consequently immeasurable. For any magnitude is only measurable so far as it can be conceived as composed of equal parts (p. 53). But every sensory experience, whether it be a sensation or a difference of sensations is indivisible, except by reference to the object of experience. We can only form an estimate of the intensity of a sensation or of a sensation difference by passing from the sensation or sensation difference itself—the domain of psychology—to external objects, the domain of physics (p. 91). "The psychic phenomenon . . . is limited to that which appears subjectively to us. What can exist independently of ourselves is the physical fact" (p. 76). Thus we reach the conclusion that the measurements resulting from the methods of experimental psychology, do not determine the quantity of psychic phenomena; they merely serve "to fix the qualitative variations objectively" (p. 244).

Prof. Aliotta's work will well repay a careful reading. It is written in a lucid, methodical manner and contains indisputable truths which at least in the past reign of crude psycho-physics, have been too often neglected. Nevertheless, it seems to me that the discovery to which the above premisses have brought him is very like, if indeed it be not actually, a mare's nest. Surely all modern psychologists will admit at the outset that a sensation or a sensation difference, taken by itself, is devoid of magnitude. But must they therefore follow Prof. Aliotta and assert that two sensations cannot be directly compared? "Taken by themselves," he says, "two different brightnesses can only be considered as equal or unequal." A judgment of their greater or less intensity, he maintains, is only possible by taking into consideration their respective distances from a third brightness which is chosen as the point of reference in the qualitative series (p. 66). Unquestionably there is confusion here between appreciation of direction of difference, on the one hand, and mathematical measurement, on the other. We are surely justified alike from the standpoint of experience and on histological grounds, in conceding the psychological faculty of observing the nature of the difference between two sensory experiences.

While it is one thing to admit that we can appreciate the equality or difference of two sensations (or of two sensation differences), it is of course quite another to urge that sensations (or sensation differences) are of measurable magnitude. With Prof. Aliotta's denial of the latter statement I am in entire agreement. I take exception, however, to one, at least, of the arguments by which he seeks to maintain his position. He brings forward the

commonly adduced objection that sensations vary discontinuously, whereas the corresponding stimuli are variable continuously. "Infinite gradations of stimuli exist to which there are no corresponding changes in sensations" (p. 53). I hold that except at the threshold, this statement is demonstrably untrue. Supposing that an individual is just able to appreciate the difference between weights of 300 and 310 grams, but is unable to distinguish between 300 and 309 grams. According to the above view, the stimulus is capable of being continuously changed from 300 to 309 grams without any change being produced in the corresponding weight-sensation; it is only when 310 grams is reached that there is a sudden (discontinous) change in the sensation. Now if the sensation remains unchanged for the interval between 300 and 309 grams, it also remains unchanged when these two weights are replaced by two of 309 and 318 grams. Consequently the sensations produced by weights of 300 and 318 should be indistinguishable, whereas they can be easily discriminated.

To my mind the only escape from this difficulty is by admitting that the intensity of a supraliminal sensation varies *pari passu* with the magnitude of the stimulus, and by recognising that the denial of this relation is the result of confusion between sensation and sensation difference. It is the physiological basis of the *sensation difference* which has to reach a certain value before the *sensations* can be discriminated. While the sensations vary continuously, the sensation difference has to pass beyond a threshold before it can be experienced. Indeed, nothing could be more apt in this connexion than Prof. Aliotta's own statement: "The difference between two sensations, as revealed to our consciousness, is a psychical fact *sui generis*, not less simple than the sensations themselves to which it refers, although of different nature" (p. 74). It is only below the threshold of differential (and below the threshold of absolute) sensibility, that sensation differences (or sensations) fail to change continuously with change of magnitude of stimulus; under which conditions, of course, they cease to have experiential existence.

Thus Weber's law is simply an expression of the constant relation between these thresholds and the magnitudes of the stimuli employed. It applies to the absolute threshold of a sensation, to the threshold of a sensation difference, and finally—since we may compare not only slight differences or thresholds but also equalities of experiences—to the equality between two sensation differences.

Now Prof. Aliotta consistently maintains that it is wrong to regard Weber's law as expressing the relation between physical and psychical magnitudes (p. 91). If his object here is to avoid the implication that intensities are magnitudes directly capable of measurement, I am in agreement with him. But I am strongly opposed to his interpretation of the law that it correlates "two different measurements of the same physical magnitudes". "When

two lengths," he says, "become the object of our judgment, they do not therefore cease to be physical magnitudes: it is the latter that we measure, not our sensations or their differences" (p. 91). To apply this to sensational intensities generally, seems to me what Prof. Aliotta elsewhere calls "psychological nonsense". In spite of our inability to measure sensations, we may yet allow ourselves the psychological possibility of comparing sensations and of comparing and equating sensation-differences: and this possibility is all that Weber's law requires.

Prof. Aliotta is on surer ground when he insists that a sensation is indivisible into parts and that Fechner's conception of measuring it by the sum of the just perceptible differences which are contained within it is psychologically unjustifiable. To juggle with sensations or sensation differences by addition, subtraction and other algebraical operations is, as he well says, "psychological nonsense". The following is a familiar but excellent example of the kind of treatment he has in mind, culled from Ebbinghaus's *Grundzüge der Psychologie* (*cf.* Fechner's *Elemente*, Bd. ii., S. 38). Let e_1/e_2, e_2/e_3 represent the differences between sensations e_1, e_2, e_3; and let r_1, r_2, r_3 be the magnitudes of the corresponding stimuli. Then since on experimental grounds $e_1/e_2 = f(\frac{r_1}{r_2})$ and $e_2/e_3 = f(\frac{r_2}{r_3})$, where f is the symbol of functional dependence, therefore (by summation) $e_1/e_3 = f(\frac{r^1}{r_2}) + f(\frac{r_2}{r_3})$. This operation implies that the sum of two sensation differences (those of the first two equations) must necessarily be equivalent to a single sensation difference,—an arbitrary and psychologically unwarrantable assumption.

Even while admitting that sensations cannot be divided into parts, it is nevertheless open for us to doubt that they are therefore immeasurable. Meinong urged that such physical quantities as work, velocity and the like, although indivisible into parts, were nevertheless capable of measurement. Prof. Aliotta replies (p. 75) that velocity is conceived as the distance traversed in unit time, and only thus is capable of measurement *conceptually*: similarly, too, in regard to work. But in order that measurement may be extended to the *psychical* sphere, he insists that we must have perceptual not conceptual measurement. Here lies the *crux* of the whole problem. What is perceptual measurement? Where is it to be found? We look in vain to Prof. Aliotta for an answer to these questions. For what he has denied to sensations, he denies also to other psychological processes. According to him, "the size of the error in the estimation of any magnitude, the longer or shorter duration of the process,—in general every numerical difference in the objective results of a mental function [hence any quantitative result in experimental psychology] affords no measurement of psychical phenomena, but serves only

to fixate the variations objectively. . . . The formulæ have merely a symbolic value and must always be translated into qualitative terms before they can assume psychological significance" (p. 241). "It is only when it (the size of an error of measurement) is considered as a sign of qualitative variation in a psychical phenomenon that it enters indirectly into the field of psychology" (p. 111). Measurement, he concludes, cannot serve as the basis of a mathematical construction for psychology. The one reason for preserving it is that "it gives an objective fixation to psychical phenomena and renders internal observation scientific" (p. 242).

To this pass, to the banishment of measurement from psychology has Prof. Aliotta brought us, never deviating on the way, as he fondly believes, from the path of pure psychology, namely immediate experience! Unluckily the truth must be faced that we never hit the proper path at the starting point. For we have Prof. Aliotta's own admission that sensations are "psychological abstractions" (p. 51), never revealed to adult consciousness in primitive purity (p. 56). Yet the proven immeasurability of these "abstractions" forms the groundwork of his whole argument.

I must confess that I fail to see how psychology can confine herself even to a description of immediate experiences without employing abstractions. If she is to be a science, pursued by analytic, synthethic, genetic and comparative methods, she can no more affect to dispense with abstractions than can any other branch of science. We will admit that the intensities of sensations are in the strict sense devoid of magnitude; a sensation is merely equal to or greater or less than other sensations of like character, and is never half or twice as great as another. But spatial and temporal experiences have magnitude and it is in terms of these experiences that in common parlance we express the intensities of sensations. True, that magnitude is an abstraction. It does not literally lie in these spatial or temporal experiences themselves, no more than a colour rests in the external object to which it belongs. But simply because magnitude is a mediate and not an immediate datum of experience, are we justified in banishing it from pure psychology? In fine, are we justified from the psychological standpoint in so rigidly isolating objective from subjective, physical quantity from psychological quality? Or is not such a distinction the concern of philosophy, not of psychology?

I have left myself scant space to do justice to Prof. Aliotta's views of the position of chronometry and ergometry in psychology. But this is only because I am generally in close agreement with the level-headed criticism which he passes on these subjects. With regard to reaction times he employs to great advantage what Prof. Ward calls the "strictly psychological standpoint". He shows the unwarrantability of subtracting various kinds of reaction times from one another with the object of timing the supposed psychological function involved in their difference. He exposes the fallacy of analysing simple reaction times into times

taken up in perception, in apperception, and in motor volition (p. 130). With regard to the more complex reactions, he wisely observes that it is an error to suppose that because logically two judgments are necessary in passing from one idea to another, therefore two corresponding states of consciousness must occur. Concrete thought does not always follow the formal schemes of abstract thought (p. 150).

The most inadequately treated parts of the book are the sections on psychodynamics and statistics. In these directions there is evidence that the author's knowledge and interests are somewhat limited. Nevertheless, taken as a whole, the book is a noteworthy contribution to psychological criticism and can be recommended as an interesting, easily readable and highly suggestive work.

C. S. MYERS.

VII.—NEW BOOKS.

Problems of Philosophy; or Principles of Epistemology and Metaphysics. By James Hervey Hyslop, Ph.D., LL.D., formerly Professor of Logic and Ethics, Columbia University, New York. New York: The Macmillan Company, 1905.

The author informs us in the preface that he has here tried to reproduce the results of his own reflexion on philosophic problems. No one who has read any considerable part of the book will dispute Dr. Hyslop's claim to originality either in style or in treatment. From the literary standpoint the arrangement is confused, the form of expression awkward and obscure, and many of the discussions are inordinately lengthened. It is not too much to say that the book might without serious loss have been compressed to one-half its size. In those numerous passages where Dr. Hyslop abandons the main course of his argument to declaim against the "intolerance of the religious mind" he exhibits a real though a somewhat trite and common-place lucidity; occasionally in this kind of rhetoric he even reaches vigour and force. The style of the more abstract parts of the book may be appreciated from a single specimen. I quote from page 620: "If evolution be the medium for transmitting the achievements of the present intact into the future, whatever sombre hues it may have for those impatient minds who watch in pain its remorseless course, it will still shelter for preservation more than it allows to perish, and a defensible hope may hover over a limitless horizon which an older view had pictured as a precipice leading into a bottomless gulf". It would be interesting to examine this jungle of metaphors or to inquire into the problem presented by the phrase 'limitless horizon'.

The author at the outset challenges criticism by his tedious and not very illuminating discussions of technical language. It is startling to learn in the preface that he intends to omit many "subordinate questions like personality, unity of consciousness, the ego," etc., because he does not regard them as "in any way conditioning the conclusions upon larger questions". The reader will surely expect a novel treatment of "Principles of Epistemology" where the problem of the ego is regarded as irrelevant; but he will scarcely be prepared for the obscurities and ambiguities which actually follow. The function of Theory of Knowledge is for Dr. Hyslop not primarily to explain how knowledge arises, but to determine its validity—it is an "orthological" science—a "science of validity in the intellectual activities of the mind"; yet emphasis is repeatedly laid on the radical character of the distinction between Epistemology and Metaphysics! The chapter entitled "Analysis of the Problem of Knowledge," to which the reader turns expecting fresh light on the familiar controversy gives us a bewildering account of the differences between what Dr. Hyslop calls immediacy, certitude, legitimacy and intelligibility. Can anything but confusion result from such treatment as this? Yet the author believes himself to have laid bare the roots of many controversies by calling attention to the equivocal import of fundamental terms! And

he attempts to remedy this by the exceptionally mystifying device of printing such familiar words as knowledge, experience, etc., throughout the book in quotation marks! It is in his discussion of the nature of Reality, however, that we find at once most to approve and most to censure. Those of us who regard the controversy between materialism and spiritualism as closed for ever will be a little disappointed to find that this is for Dr. Hyslop the burning question of metaphysics, and that in his opinion the only issue of importance is that of personal immortality. Arguing on the strictly scientific plane he gives us a considerable amount of acute and valuable criticism; he rightly insists that the recent researches of physicists into the constitution of matter should be philosophically interpreted, and may lend important support to the spiritualistic view: and he traces in a clear and interesting passage the historical development of materialistic theory. This part of the book, however, is greatly marred by a pointless polemic against Kantian and Neo-Kantian metaphysics. It is quite open to Dr. Hyslop to restrict his own argument to such considerations as experimental science can supply; but in doing so he should have avoided meaningless sneers at those who work on a profounder level and wield a more powerful dialectic. Kant, he tells us, deals in 'mere possibilities'—he did not see the importance of verification—Philosophy in his hands was the 'speculative explanation of phenomena without much regard to evidential considerations'. This is a definite charge—most of his readers will think an amazing charge; and the only interpretation which I can put upon this part of the argument is that Dr. Hyslop will not believe in the *a priori* Categories unless they can be detached by the method of Difference and exhibited on the table of an experimental laboratory. This passage, combined with the extraordinary caricature of Kant's position in chapter ix., shows to how little purpose Dr. Hyslop has reflected on the meaning of the transcendental method. The book is specially remarkable for its omissions. One does not expect the author to deal with *all* Problems of Philosophy, but one who claims to be above all things abreast of the times ought surely, writing last year, to have dealt with the absorbing controversy on the place of the Will in Cognition. So far as I have noticed, this problem is ignored—except for a few platitudes on Kant's postulates of Practical Reason. We get instead, in the last chapter, a long polemic against the uselessness of current philosophy, with a threat that such vain speculation will be swept away by the rising tide of democracy!

HERBERT L. STEWART.

Sociological Studies. By J. S. STUART-GLENNIE, M.A. Reprinted from *Sociological Papers*, vol. ii. The Sociological Society.

In this age, whose peculiar characteristic is the love for detailed specialisation, it is well that there still remain some philosophers who strive to "see things whole". Mr. Stuart-Glennie's first paper, in his series of sociological studies, "The Place of the Social Sciences in a Classification of Knowledges," proposes a scheme for the grouping of all knowledge in one co-ordinate form. This grouping is especially undertaken in the interests of the Social Sciences, since their aims cannot be clearly seen until they are assigned their definite places in the general classification of the sciences, and their placing necessitates an attempt to reconcile the antagonistic philosophies, the materialistic and idealistic theories of causation. This reconciliation is effected by the conception and definition of Atoms as having at once psychical and physical

properties, being, in Mr. Stuart-Glennie's own words, "mutually determining Centres of correlatively integrating and differentiating Efforts acting through radiating Pressures".

The skeleton of the classification is as follows:—

MOTION.

Mathematics.	*Energetics.*	*Ergatechnics.*
1. Arithmetic.	1. Mechanics.	1. Mechanotechnic.
2. Algebraic.	2. Physics.	2. Dynamotechnic.
3. Tactic.	3. Organics.	3. Biototechnic.

METAMORPHOSIS.

Orectics.	*Metamorphics.*	*Demiourgics.*
1. Alogistic.	1. Kosmology.	1. Geometabolic.
2. Methodic.	2. Biology.	2. Biotometabolic.
3. Logistic.	3. Anthropology.	3. Antropometabolic.

SOCIALISATION.

Æsthetics.	*Dikaiosynics.*	*Kalliagogics.*
1. Theamatic.	1. Economics.	1. Paidagogic.
2. Music.	2. Deontics.	2. Politagogic.
3. Dramatic.	3. Juridics.	3. Archontagogic.

The exclusion of Sociology from the classification is justified by an analysis of its aims, which are discovered to be twofold, evolutional and ethical, and it falls therefore (according to its purpose) under Anthropology, "aiming at and discovering the laws of man's history," or Dikaiosynics, "aiming at and discovering the conditions of just institutions". The bonds which connect Sociology as an evolutional with Sociology as an ethical science are set forth in the second paper, "The General Historical Laws, the Anthropological Bases of a Science of Socialisation". The third paper deals with "The Application of General Historical Laws to Contemporary Events," treating of history as a vast world-problem, and tracing out a certain periodicity which cannot only be discerned in the past, but may also be predicted for the future. These papers deserve careful study and attention, and even those who cannot whole-heartedly accept Mr. Glennie's philosophy will welcome its suggestiveness, and admire its comprehensive scope.

The Key to the World's Progress. By C. S. DEVAS. Longmans, 1906. Pp. 318.

"Christianity is final" (p. 57). This sentence contains the thesis of this volume, which is that whatever leads up to Christianity makes for human progress, that Christianity itself is a progress, and that apostasy from Christianity means retrogression, not in regard of the future life merely, but in respect of the best goods of man's present existence. Accordingly Mr. Devas distinguishes 'Fore-Christians, Christians, and After-Christians'. The Christianity which he has in view is that of the Catholic Church. In the second part of his work, called "The Course of Christianity," he deals with "ten antinomies," of which these are some: "the Church represents a religion of sorrow, yet of gladness"; "the Church appears as the State's rival, yet its ally"; "the Church is full of scandals, yet all holy"; "the Church upholds and yet opposes liberty of conscience"; "the Church is ever the same and yet ever changing"; "the Church is ever being defeated and yet is ever victorious". Under the head of "Church Scandals" he quotes Newman's saying: "Faith is

illuminative, not operative"; the Church, he argues, is compelled to admit the crowd, and the crowd will never be all saints; over and against the scandals he sets "the actual practice of the Christian law in a multitude of homes," and "the heroic life of God's chosen servants". These compensating facts, he complains, are overlooked by historians, careful purveyors of scandals from unimpeachable sources, while "for every three words written the threescore are left unwritten that are needed to set the three in their place". It has been said on Aristotelian principles that "the final cause of civilisation is the production of the small band of thinkers who illuminate each generation". Mr. Devas says: "To produce Christian saints is the supreme task of mankind". And he believes that the happiness and ennoblement of men on earth varies directly according to the zeal with which they devote themselves to that task. The thesis will never command the assent of the general reader nor of many philosophers. But as no man is satisfied with the present deplorable estate of mankind, Mr. Devas may be allowed a hearing for a cause which he pleads with earnestness, and with the erudition to be expected of a man of his standing as a writer on social questions. Our one complaint against the book is that, treating as it does of so general a theme, one has to regret in it a certain absence of detail, as in a photograph of a distant and extensive landscape. The reader must enlarge for himself.

JOSEPH RICKABY.

Truth and Falsehood in Religion. Six Lectures delivered at Cambridge to Undergraduates in the Lent Term, 1906. By WILLIAM R. INGE, M.A., D.D. London: John Murray, 1906. Pp. 176. Price 3s. 6d.

In this little volume the philosophical is subordinate to the theological and religious interest. Dr. Inge does not attempt to define the ideal of religion by the help of speculative discussion; the standard tacitly assumed is Christianity liberally conceived. Here "all the faculties, intellect, will, and feeling are disciplined and consecrated to their highest uses". The first two lectures treat of the "Development of the Religious Consciousness" and "Falsehood in Religion". The writer points out that most of the errors into which religion has fallen are "errors of disproportion, of one-sided development". In a lecture on "Faith and Fact" Dr. Inge criticises the tendency to bring the intellectual aspect of experience under the dominion of the volitional and emotional aspect. He dislikes the New Apologetic which bases faith on value-judgments, and thinks that if thought is made the mere servant of will "there is no extravagance of credulity to which we may not fall a prey". Still, at the close of a somewhat inconclusive discussion of the Miraculous, the writer hints that the traditional view has a claim on our acceptance because it gives better support in our trials. Here he himself tends to fall back on the 'working-value' of an idea as a test of its truth. In the chapter on "The Religion of Christ" Dr. Inge urges the fundamental importance of the idea of the Logos; the last lecture treats of some "Problems and Tasks".

Occasionally one may question a statement of the author's, as when he says of the Johannine Christ, "the deep congruity between this portrait and those of the Synoptists has long ago been settled by the Christian consciousness" (p. 135). But on the whole the lectures are admirably adapted to the purpose for which they were written. They show clearness of thought and breadth of view, as well as sound psychological insight.

G. GALLOWAY.

Weltwesen und Wahrheitwille: ein Zweigespräch mit dem Leben. Von HERMANN GOTTSCHALK. Stuttgart: Stricker & Schröder, 1905. Pp. viii, 464.

This is in many respects a striking and original work, written with extreme candour and courage, but marred by a perverse fondness for novel terminology, and a consequent obscurity of expression.

The general philosophy of the book might be described—with only half-justice, however—as an extreme individualism: progress in the individual is the supreme end; but we do not and cannot find that there is any further formulation of the goal of progress possible. "We must learn to be artist and philosopher in all the relations of life. Each one is alone. Each matters to himself alone. Consider that all social forms are merely forms of self-determination, that each in making a social demand on his brother is giving up a portion of himself." No one can live for another, but only for himself; and the truth of self is the truth of reality. The ideal man of Herr Gottschalk is the "*Künstler-mensch um seiner selbst willen*": "He alone feels, in one whole, what humanity feels; he alone knows and comprehends the innermost heart of the world-being in the human will—and what he creates, sees, thinks or receives, is perfection of purest being" (p. 453).

Being is dual; all substances or existences are forms of interaction between two polar forces, a *positive*—absolute movement or eternal will—and a *negative*—inertia, persistence, absolute non-willing. These forces are real only in their conflict one with the other. All organisms, including man, are 'victims' of the combat of the cosmic forces, without influence on their own destiny, or power in their development. But they become, through an illusion, engendered presumably by the positive force, partisans of that force against the negative, against inertia, and against death. The highest expression in man of this partisanship is the Love of Truth, which in its turn is the highest form of the Consciousness of Self (*Ich-bewusstsein*), and which has its ground not in the organism, but in the forces of which the organism itself is but a passing phase. Self-determination, accordingly, or the will to know, the will towards truth, in the individual, is ultimately the expression of the tendency of the universe as a whole towards some end. This absolute end cannot, however, mean the suppression of one force, *e.g.* the negative, by the other; for the two exist, or are real, only in conflict with one another: the suppression of one would be the suppression of the other also. The only end that remains appears to be the restless and endless creation of new and ever new forms, hence it is that the artist or the creative mind is the highest finite expression of the absolute will. Truth is not something ready-made, to be acquired by the mind, but something which ever "is to be," something to be created, willed, and transformed from being to being. "The highest knowledge is art, and the highest art is knowledge" is a saying in which Gottschalk seems to sum up his philosophy. It is essentially a philosophy of the "modern" life, the life of movement and of effort, of striving for the novel, the individual, the bizarre, the unique. Thus the artist-man knows nothing of, and cares nothing for, the Absolute Spirit, because it is formless,—but "it works in him as a positive life-asserting part of his being, and becomes in him, through action of the counter-force, . . . the personal spirit".

The theory of knowledge which supports this theory of being reads like a magnifying of instinct, impulse, feeling, and especially of the subconscious in mind over clear, exact knowledge; this is only natural, however, since it is in these subconscious strivings that the force of the

absolute will makes itself most massively felt. The inorganic world, or the things we perceive in it, are merely relative and subjective forms, not existing independently of us. Accordingly, all the knowledge of the exact sciences cannot bring us a step nearer to the heart of the cosmo-physical problem: this *pure* knowledge of reality can be won only by "cosmo-psychological" methods. Can we have or acquire other concepts than those which spring from sensible forms? Gottschalk answers in the affirmative: "Our experience rests on two distinct substances (*sic*), one of which is the relation of the organism to its environment—the sensibly perceptible,—the other on the contrary is the absolute substance, the object of experience in itself". The consciousness of self is such an absolute substance, and in it we approach to a conception,—a supra-sensible conception,—of the absolute being. It is the source of the impulse towards truth, which is inexplicable alike by sense-experience, by the biological needs of the organism, and by an external purpose of God. Thus from this point of view also we return to the theory that the love of truth in man is "nothing else than a form of the striving of the absolute being after the highest unfolding of its force, which consists in reaching in all things to the most complete self-expression, self-determination".

The application of these ideas to the history of institutions, of religion, and of morality is interesting. It is the artist, according to the writer, not the statesman or founder of religion, that has both shown truest individuality and has expressed best the truth of humanity. Every God, including the Christian, is a product—a "phantom"—of the ideas of happiness of his worshippers. "The sacrificial death of Christ removed the weight by which absorption in the once indispensable human god checked the free expanse of thought; and removed therewith the evil conscience under which the very Greeks invented the idea of eternal punishment." The chief value of Christianity consists for Gottschalk in its vagueness of form, in which more rapid progress is possible than under a series of definite forms fixed once for all (pp. 31 ff.). All ideas of God are mere "substitutions"—personifications—of abstract ideas or of personal wishes. "Man would invent no God for himself if in the first concept an absolute self-consciousness were given, a knowledge of man's own mastery over himself, and of his responsibility solely to himself" p. 162). Religion is thus a transitional form, an unfixed phase of conceptual evolution; necessary, indeed, in its several phases, but only as a means to the end. Morality, on the other hand (p. 175), is a part of the primitive or elemental nature. Morality in its true form is therefore unconscious, not an object of effort; the false position in which it has been placed is due to the fact that it has remained an appendage of a religion which itself has been left behind.

Gottschalk criticises with equal vigour Romanticism and Asceticism, Catholicism and Protestantism. His view of English religion is not flattering to our vanity (p. 214). The God of the Englishman is described as a Commercial Security: "So long as his business goes well, the Englishman knows that he has a God". Needless to say, the work was written before our Education Bill appeared.

J. Lewis McIntyre.

Das Gefüge der Welt: (Versuch einer kritischen Philosophie). Von Hermann Graf Keyserling. München: F. Bruckmann. A.-G., 1906. Pp. viii, 382.

Count Keyserling's work is one of the most suggestive attempts we have seen in recent years to penetrate the mystery of the All and of man's

relation to it. Professing no finished system, his intention is *nur anregen, nicht ausführen*; and he writes with so remarkable vividness of style, from a knowledge so evidently profound, "all-round" and balanced, that he can hardly fail in his object. Whether his conclusion will stand the only tests which can be applied to a philosophical hypothesis,—those of inner self-consistency and of practical "workableness." —is another question. It is not certain that even the postulates on which his thought is based would be admitted by all, *viz.*: 1. That the universe is a closed *system*, and (2) that knowledge consists only in the comprehension of the particular under a general law; each of these it is said (p. 9) implies the other—they are the fundamental laws alike of nature and of thought. It is on this idea of the universe as a system—*Zusammenhang*—that the whole philosophy of Count Keyserling turns (*cf.* p. 171). He is imbued with the spirit of Kant—as voiced by H. S. Chamberlain, it is true—and much of the present work consists in the application of Kant's fundamental ideas, those of the Categories, the Antinomies, the Transcendental Unity of Apperception, Spontaneity and Receptivity, Freedom and Necessity, etc., to modern problems.

Matter and force are shown to be mutually independent categories of thought; the reduction of one to the other which scientists attempt is therefore an impossible task; but the philosophic search for unity finds what it seeks in *Life*. Life also is an independent category, which can neither be exhausted nor replaced by Matter or Force or both; it is a unity not in the conceptual sense merely, but in the actual, it is given as such—"the whole of life in its milliards of incorporations forms *one* single organic whole". It is in Life again that the antinomy of matter and force, or of continuity and discontinuity—the correlatives or "projections" of the former—is solved; for while continuous as a whole, Life is discontinuous in its individuals. But we are impelled to seek a still higher unity, which shall embrace Life itself along with Matter, Force, and the rest: of Nature, matter, force, however, we know nothing but the 'projections' upon life, *i.e.* upon the inner experienced Life, the laws of which—the forms of knowledge—transform all other laws which are brought within them (p. 60). This difficulty is solved by the Kantian view of Objectivity as a differentiation or form of consciousness itself, not something outside of it; *i.e.* consciousness not only *has* the forms of thought and knowledge, but *is* them. Hence the idea of a higher Law from which derive not only life, and bodily forms, but the forms of thought also. In other words, the forms of knowledge are merely one of the innumerable expressions of the single Law or Ideal, which holds the Universe itself together. It is true that we have in ourselves only a "projection" of the universe, but as in Projective Geometry, —the analogy of which plays a great part in Count Keyserling's thought —the laws of the thing itself, which perhaps is too complex for finite comprehension, may be known from its simpler projection (pp. 66 f.). Projection does not alter the relations between the parts, but merely the form of their appearance. The dominating thought of the volume may perhaps be expressed thus: "The same law or laws by which all natural events, in the diverse forms of existence, are directed, govern also human ideation and thought; thus our human concepts of order, beauty and harmony represent a *consequence* of the same law as has formed the universe into a Cosmos—a consequence or effect, not a cause and not the law itself" (p. 70).

Mathematics, accordingly, as the most purely formal science,—for it deals not with concepts, but with relations between any possible concepts and therefore between any possible realities,—becomes that science which gives philosophy its direction. "Mathematics does not give us

a picture of the connexion or system (of the universe) in the sense in which concepts do so, but it *is* that system itself, as expressed and mirrored in the human spirit" (p. 95). We read accordingly of a "mathematics of the universe," in which Life plays the part that the symbol of the irrational number plays in human mathematics: it is both *matter* and *force*, both *being* and *becoming*, yet more than either, just as the irrational number (*e.g.* $\sqrt{2}$) mediates between the discrete and the continuous, between arithmetic and geometry (pp. 137 f.). Keyserling does indeed proceed to show,—with much display of scientific evidence, —that a common Rhythm, expressible in the same numbers, runs through such diverse things as the formation of crystals, the harmonies of tones, the relations of colours, the arrangements of atoms, etc. (pp. 157 f., 182 f., etc.): and even through the sphere of human creativeness and spontaneity—Art. "The rhythms according to which the greatest spirits, though following their free, inward, personal dispositions, brought their works into existence—*i.e.* the forms of art—are the same as those which in nature have held for all time, which in endless space direct the course of the stars, direct also the growth and decay of life on the most insignificant of planets. Hence it is that music is the highest symbol of the universe" (p. 228). Stated so, baldly, the theory appears mystical and fantastic; in the setting of the mass of argument and illustration in the work itself, it is not so, but reasonable and almost probable. There are also many attractive suggestions made on which it has been impossible to touch here.

J. L. M.

Kritik der Freiheitstheorien. Eine Abhandlung über das Problem der Willensfreiheit von Joseph Mack. Leipzig: Johann Ambrosius Barth, 1906. Pp. 283. Price 4·50 mks.

At one time philosophers seemed to have wearied of disputing about the freedom of the will. But with the reaction against the exclusive predominance of scientific categories, interest in the problem of freedom is fast reviving. Infallible symptom of this is the flood of pamphlets on the subject which is being poured forth in Germany. Mr. Mack's book is a fair sample of its class. It contains a defence of freedom which is not without ingenuity, though I suspect that it will be read with misgivings even by friends of his cause.

His main line of argument appears to be this: Free, in the widest sense, is whatever follows its own nature, obeys the laws of its own being. In this sense all nature, the falling stone, the growing tree, so far as they fall or grow without interference (artificial? human?), are free. Man, too, is free if he obeys the laws of his nature. But this purely verbal reconciliation of freedom and necessity does not carry us far. The question is not, whether a thing which follows the laws of its nature deserves to be called free, but whether the laws of nature and of man are the same, whether the categories (especially causality) which we apply to nature, are also adequate for the explanation of human conduct. A natural object, just because it obeys the laws of its being, can in no case behave otherwise than it does. Man is normally conscious that he can act and will otherwise than he does. Hence the problem: If man is merely a piece of nature, subject like nature to causality, this possibility of alternatives is mere illusion, as the determinist maintains. The defender of freedom, therefore, has to show that man has specific qualities which lift him above nature. Mr. Mack finds two such characteristics which, in the end, are seen to be closely connected: (1) Man

recognises *values*, ideal demands, standards in Logic, Æsthetics, Ethics; he judges 'what is' in the light of 'what ought to be'. 2 Nature is to man an object of knowledge, and knowledge is impossible without the principle of causality. But the subject which knows can never become an object to itself. All that we know of ourselves (*e.g.* in Psychology) belongs to the objective world. Man can never know himself as subject. His subject-nature is unknowable and beyond the reach of science and causality. But it reveals itself in immediate experience, in our consciousness of values and ideal demands; a consciousness which is not theoretical, but practical, not knowledge, but intuition. We are conscious of being able to act otherwise than we do; we are conscious of values which the world and we ourselves do not necessarily realise: in short, we are conscious of freedom, and *therefore we are free*. Scientific proof for or against freedom is impossible. It is not a matter of theory but of immediate experience. Hence the attempts of the indeterminist to construct a theoretically satisfactory concept of freedom were bound to fail. In argument the determinist has the best of it, but no argument can touch the fact of freedom, as established by immediate experience whenever we judge the object-world including our own actions by the ideal standards which are the direct manifestation of our subject-nature. And since freedom consists in obeying the laws of one's nature, men are free in so far as they live up to the demands of their subject-nature. In conduct: a moral life is a free life.

The author's definitions of freedom are perplexingly numerous and divergent: 'freedom is self-determination and self-assertion, *i.e.* following the laws of one's own nature' (p. 29); 'freedom is the conformity of man's thinking, feeling, willing to the demands of the "ought" of which he is conscious' (p. 30); 'Freiheit des Anderskönnens' (p. 117); 'the characteristic of human freedom is that it consists not in mere self-determination like that of nature, but at the same time in the possibility to act against one's own nature and ideal demands' (p. 166); and since the ideal demand is for the good, we hear next: 'freedom is the possibility of sinning' (p. 167). These quotations show that Mr. Mack is in difficulties over the same ambiguity of the word 'freedom' which according to some critics has proved fatal to Kant. Freedom, they both say, consists in conformity to the moral law, but if this conformity is to have any merit, there must also be that *other* freedom which consists in ability *not* to conform. Mr. Mack slips glibly from the one sense to the other, from the moral freedom of which the opposite is slavery to the passions, to the 'Freiheit des Anderskönnens' of which the opposite is causal necessity.

I might also criticise Mr. Mack's opposition of knowledge and immediate experience. I might complain that the impossibility of proving the existence of freedom, to which his own position condemns him, forces him to wearisome repetition as the only other way of carrying conviction. I might point out that to appeal to the evidence of immediate experience is no satisfactory answer to the determinist who challenges that very experience. And to deny the determinist's right and competence to such challenge is even bolder.

However, as Mr. Mack has secured himself against all criticism by his assertion that no theoretical arguments can avail aught against the certainty of immediate experience, I will content myself with indicating those points of disagreement, and acknowledging that, in spite of them, I have found his book interesting and suggestive.

R. F. Alfred Hoernlé.

Gehirn und Seele. Vorlesungen von Prof. Dr. med. PAUL SCHULTZ, gehalten an der Kgl. Universität zu Berlin (1899-1904). Herausgegeben von Dr. HERMANN BEYER. Leipzig: J. A. Barth, 1906. Pp. v, 189.

The posthumous publication of these popular lectures is a tribute to the memory of a gifted and interesting man. They appear just as he delivered them, with many weaknesses which the occasion of their delivery partly excused, and which even have a value as revelations of a personality evidently combining devotion to exact science with a distinctly emotional nature. Honestly, however, it is a very weak book. The author's position is based on a facile acceptance of the premisses of Kant, with some showy, but evidently sincerely accepted deductions in the spirit of Schopenhauer and F. A. Lange. "Scientifically the only possible conception of the relation between brain and soul is that, temporally, certain processes in the brain run parallel to certain psychical processes" (p. 185). Added to this he regards as axiomatic that the complex can only be explained by the simple, hence the soul of man by the soul of animals. Thereupon we have a mass of curious and vastly entertaining details about all sorts of creatures the relevancy of which is not always apparent. The main emphasis of the book, however, is laid upon the phenomena of the nerves and brain. It is, in short, an epitome of comparative cerebral physiology, and as such is interesting and profitable reading to any one desiring an outline of the subject. What I fail to see is that Prof. Schultz has so wrought his material as to recommend the hypotheses he espouses, or that, indeed, the word "Seele" has any right on his title-page. The soul is relegated throughout to that vague beyond where scientific explanations have no force, and where we are quite free, according to our author, to gratify our emotional, artistic and metaphysical impulses; which is all very fine, but at least the phenomena of consciousness as such had some connexion with his theme.

DAVID MORRISON.

Die Anfänge der menschlichen Kultur: Einführung in die Soziologie. Von Dr. LUDWIG STEIN. Leipzig: Teubner, 1906.

The book deals with the development of civilisation, and the evolution of civilised man from "natural" man. Civilisation implies work; the state of nature idleness. The history of civilisation becomes mainly a tracing of the working of energy and activity in the conquest of mind over matter. Among the earliest incentives to work are need (hunger, cold, etc.) and the instinct for display (especially in the eyes of the opposite sex). These produced tools, division of labour, and ornament, and organised labour and care for the future succeed to the recklessness of primitive man.

The author lays especial stress on the importance of ornament as a factor in the growth of social life, and he would trace its origin rather to the desire for display than to religious or superstitious rites. It has also played its part in the encouragement of the arts and sciences. Possession of ornaments led to their exchange and to their storage as wealth. Morality and religion develop out of family life and instinct. The elastic customs due to instinct and habit lead on to the fixed laws of conventional society. Writing makes these customs into rules and perpetuates them.

Finally, the organisation of the family leads to that of the State and that of the town. Man works out his own conditions, and these conditions react upon him; *e.g.* he builds towns, but the towns shape his life and determine his social problems.

S. C. Haddon.

La Città Terrena. Giuseppe Cimbali. Roma-Torino: Casa Editrice Nazionale, 1906. Pp. 388.

Judging by the author's own dating, 1880-1905, this book comes to the world mellowed, not to say ennobled, by the constructive lucubrations of a quarter of a century. There is in the contents no sign of its having been kept back for any late utterance of sociological science. It breathes the atmosphere of a seventeenth century library, into which a few books on Darwinism have strayed. An archaic flavour pervades the work, from the titles of the twenty-seven chapters to the absence of modern quotations and footnotes. The five classic Utopian cities, or states, of literature are cited, but not for purposes of analysis, or of comparison with a new claimant to imaginative or prophetical distinction in the 'Terrestrial City'. And all other works of this class are lumped together as 'fantastic constructions,' with the bidding that, at this time of day, there should be no more dallying of the intellect with these *péchés de jeunesse*. The aim of the book is more akin to that of the *Leviathan* and the *De Cive*, professing to show the social unit as he actually is. We are, with a more serious conviction and therewithal a greater serenity than we as yet evince, to recognise the savagery lying skin-deep in every one of us. The work is not more genetically expository than it is constructively anticipative. It is frankly descriptive, with explanations based on limitations accepted as unchangeable laws. 'He never will because he cannot.' Man is a good fellow to fellow-man only if nothing to seize lies between the twain of them. There usually is something, hence we are bound to be usually fighting—not all with all, as in Hobbes's dictum, but within the microcosms of our special interests and environment. Beyond these we can afford to be splendidly catholic in our goodwill. The advance of civilisation intensifies both the tigerish and the fraternal capacity. Man has stooped to be subject in order not to be a slave, and—if we may apply Renan's epigram to help this inadequate abstract—*l'état ne peut qu'une seule chose, organiser l'égoïsme*. The knowledge of what we are tends to make us pardon what we are, and is a better incentive to action than visions of what we might or may be. 'The world is well as it is,' and if it treats you badly, you should not whine or swear, like the 'animale piagnucoloso e profanatore per eccellenza' that you are, but get power (pp. 47, 354). The greatest Utopias of all, the heavens of the creeds, they, too, are dreams. But they have practical anodynic efficacy, in that, unlike the altruistic joy of the Pisgah contemplation of secular Utopianism, they appeal to personal destiny and personal interests. They may be suffered, for man is weak. But 'the philosophers of Dream are more pestilential than ignorance itself' (p. 355). These harsh sayings are, however, cancelled at the eleventh hour by the admission that Utopia-making is also a source of benefit and of hope, and is in any case a sempiternal concomitant to intellectual life. More than that, it may point the way to better adjustments for 'history is not the whole of possible reality'.

It is to be regretted that the author did not enlarge on this 'Dream' aspect of his real and actual man, and trace the working of evolution in the different expressions of the Utopist instinct, notably that most recent

one, where the fetches of imagination have been regulated into a quasi-science of 'Anticipations'. The very limitations yet appearing in this evolution of 'the nostalgia of that which we lack' (p. 10) are of interest. Political, social, æsthetic and economic paradises have been constructed, but a polity wherein the cultivation, free play and fruition of intellectual life shall dominate all other joys and interests is yet uncreate, save perhaps in Dante's Limbo! But it is a grudged bone that he flings to Utopism in admitting that 'they squeeze out of reality what there is to squeeze' (p. 360). He reproves that thieving fisherman who, when arraigned, called Alexander the Great only another thief on a larger scale, for not discerning that the laws against larceny did not exist for conquerors. But that notable fisherman is a sublime instance of the Utopist imagination which has visions, even on a lower plane of social evolution, of the higher law of social equity, years, even centuries, it may be, before that higher law takes shape in the actual polities of the world.

C. A. F. Rhys Davids.

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W. L. Horowitz, *Das Leben im Weltall*, Braila, Im Selbstverlag des Verfassers, 1903, pp. xii, 227.

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VIII.—PHILOSOPHICAL PERIODICALS.

PHILOSOPHICAL REVIEW. Vol. xv., No. 4. **J. H. Tufts.** 'Some Contributions of Psychology to the Conception of Justice.' [Applies the psychological doctrines of the complexity of the individual, the nature of the individual as both habit and adjusting activity, the emptiness of forms without contents, and the social character of the individual, to the problems of the just distribution of wealth, the just distribution of education and other mental goods, and the administration of justice by the courts. The injustice of present conditions is shown, and remedies are indicated.] **A. E. Taylor.** 'The Place of Psychology in the Classification of the Sciences.' [Psychology is a natural science. It is distinguished from the abstract philosophical sciences by their use of transcendental noumenal ideals into which no time-variable appears to enter; and from the concrete, the *Geisteswissenschaften*, by their evaluation of temporal facts in terms of intellectual, moral and æsthetic worth and in the light of transcendental ideal standards.] **G. N. Dolson.** 'The Idealism of Malebranche.' [This is in some respects unique, and, while it resembles that of Berkeley, is yet more akin to later systems. Epistemologically, Malebranche's view of philosophical method consists in making and keeping clear of confusion the various elements of consciousness due respectively to reason and sensation. Ontologically, the system centres about the doctrine of ideas. Joly's contention that it is essentially realistic is not admissible.] **J. E. Russell.** 'Some difficulties with the Epistemology of Pragmatism and Radical Empiricism.' [Statement of four difficulties: the pragmatic union of the ruling conceptions and methods of psychology and logic; the meaning of thought; the explanation of truth and knowledge; the logical escape from solipsism.] Reviews of Books. Notices of New Books. Summaries of Articles. Notes. [Reply to Gardiner by Hyslop.]

PSYCHOLOGICAL REVIEW. Vol. xiii., No. 4. **F. Arnold.** 'The Psychology of Interest,' I. [Review of theories of interest, as connected with feeling and attention, from Herbart to Calkins.] **B. Sidis.** 'Are there Hypnotic Hallucinations?' [The introspective account of the hypnotic subject must be taken *cum grano*. Hypnotic and posthypnotic hallucinations are not genuine, but are essentially spurious; hypnotic hallucinations, unlike actual hallucinations, are really not experienced; hypnotically suggested hallucinations are merely forms of delusions.] **J. R. Angell.** 'Studies from the Psychological Laboratory of the University of Chicago.' **H. Carr** and **J. B. Allen.** 'A Study of Certain Relations of Accommodation and Convergence to the Judgment of the Third Dimension.' [Report of experiments upon an observer with direct voluntary control of lenticular accommodation independent of convergence, in whose case depth is a function of accommodation and not effectively influenced by convergent changes; notes upon a second and somewhat similar case. Discussion of theoretical importance of

data.] **A. Vicholkovska.** 'Illusions of Reversible Perspective.' [Report of experiments with plane and solid figures. The cause of inversion lies in the relation between the observed object and the central and peripheral parts of the retina in which the image of the object is produced. Any proceeding will occasion inversion which facilitates the passage of the rays from an object once on the central part to another on the peripheral part of the retina (change of accommodation, change of fixation, reflex changes in ophthalmometrical experiments, etc.).]

American Journal of Psychology. Vol. xvii., No. 3. **I. M. Bentley.** 'The Psychology of Organic Movements.' [Organic movements offer a variety of problems to psychology, demanding detailed treatment. Theories, however, fall into two groups, emphasising either the motor conditions or the motor consequences of consciousness. The tendency of the former is toward a central psychophysical formulation; but so little is here known that, while almost any theory will command attention, none brings proof or receives widespread assent. The tendency of the latter is (especially in America) toward reactionism: their weakness consists in their appeal to an ill-defined and faculty-like attention.] **J. P. Porter.** 'The Habits, Instincts, and Mental Powers of Spiders: Genera *Argiope* and *Epeira*.' [Review of literature; methods of study; choice of place for web, nest and materials of nest; mode of web construction; quantitative measure of variability of instinct (number of elements in parts of webs); time of web-spinning, and stimulus to web-construction; feeding habits and intelligence: web-shaking instinct; vision; mating instinct in *Argiope*; tropisms *vs.* plasticity in instinct; bibliography.] **S. P. Hayes.** 'A Study of the Affective Qualities. I. The Tridimensional Theory of Feeling.' [An attempt to test the Wundtian theory by extending the method of paired comparisons to affective judgments of all three dimensions. Experiments with harmonical clangs and metronome beats. The pleasantness-unpleasantness responses were direct; there was no evidence of a plurality of these qualities. Strain may be identified with unpleasantness, on its affective side. Less direct were the judgments of excitement, depression and relaxation: these were either associatively motived or given on the basis of pleasantness or unpleasantness.] **A. L. Gesell.** 'Accuracy in Handwriting, as related to School Intelligence and Sex.' [Accuracy of handwriting in pupils of elementary grade tends to vary directly with school intelligence. Sex differences in writing become marked at about the age of ten, and are largely attributable to mental factors.] **E. Foster** and **E. A. McC. Gamble.** 'The Effect of Music on Thoracic Breathing.' [In listening to music, breathing becomes rapid and shallow, as in mental application, but remains irregular. That is, attention rises, but does not become proportionately stable.] Psychological Literature. Book Notes.

Journal of Philosophy, Psychology and Scientific Methods, III., 5. **G. A. Tawney.** 'The Nature of Consistency.' [Discusses logical, metaphysical and psychological aspects of the term together, confusedly]. **K. Gordon.** 'Feeling as the Object of Thought.' [Feeling is the 'other' thought points to, and no further 'absolute' is needed. 'For why should the real other of thought be any better or more real than thought itself?'] **W. P. Montague.** 'The Meaning of Identity, Similarity and Nonentity.' [A criticism of the 'logical puzzles' in Russell's article 'On Denoting' in Mind, N. S., 56. The first two arise from ignoring differences in the universes of discourse; the third assumes also that affirmative judgments may be made about nonentities.] III., 6. **J. D. Stoops.** 'The Moral Individual.' ['The problem of human life is to

express in terms of will the fundamental unity of life which in the infra-human world is expressed in terms of law and instinct.'] **G. M. Duncan.** 'On Feeling.' [Would like to discontinue the term, or failing that to use it as = 'affective psychosis'.] Report of fourteenth meeting of the American Psychological Association. III., 7. **J. R. Angell.** 'Recent Discussion of Feeling.' [Reviews the papers by Marshall, Gardiner, Gordon and Washburn in the *Journal*, and finds that they agree "that feeling should designate the distinctly personal internal aspects of conscious life," but hints that it may be necessary to "abandon all pretence of employing the term in a technical manner".] **J. A. Leighton.** 'Cognitive Thought and Immediate Experience.' [Polemic against Dewey and James; but "of course thought must make a difference to reality . . . and *some* reality must be of the sort to which thought can make a difference".] **W. H. Sheldon.** 'The Quarrel about Transcendency.' ["Any matter of belief can be formulated in either experiential or realistic language." and so there is no real issue here between radical empiricism and realism, as judged by the pragmatic test.] III., 8. **E. G. Spaulding.** 'The Ground of the Validity of Knowledge,' I. ['*Needs and the Transcendent.*' Pragmatism is evolutionistic and realistic. Needs, and 'success' in satisfying them examined. "The ground for validity in the sense of 'successful working' is external to the inference itself as a logical and psychological event." Concludes that therefore "the need can be met only by a transcendent which is itself order and regularity, causal agent, persistent, permanent."] **M. S. Case.** 'Prof. Calkins' Mediation.' [Between functional and structural psychology.] Review of Santayana's *Life of Reason*, by A. W. Moore. III., 9. **E. A. Norris.** 'Thought Revealed as a Feeling Process in Introspection.' [Attempts to show (1) that all intellectual operations may be regarded as feeling process only, being (2) wholly manipulations of emotional states and specialised feelings, and (3) that in all thought not directly influenced by sense emotional states are primary factors.] **W. G. Chambers.** 'Memory Types of Colorado Pupils.' [Auditory memory is distinctly inferior in every grade, from eight to twenty-one, etc.] **F. C. S. Schiller.** 'Thought and Immediacy.' [Apropos of the discussion between Dewey and Bakewell, II., 19, 22, 25, 26. Not only is there an immediate side to all mediation, but it is mistaken to represent thought as immanent in perceptual experience. What *has been* mediated is not *now* mediate. Psychologically the tense is essential. Logically also the function of thought is to enrich immediate perception, *νοῦς* is *αἴσθησις* and *λόγος* is instrumental.] III., 10. **J. Dewey.** 'Reality as Experience.' [Considers the problem of the existence of reality prior to conscious organisms. The earlier reality is ever 'on its way to experience'. 'It is only the earlier portion of what later is experience,' and this 'continual-transformation-in-the-direction-of' can only be properly appreciated in the experience of the scientist, philosopher, etc.] **E. G. Spaulding.** 'The Ground of the Validity of Knowledge,' II. *Implication and the Meaning of 'In Experience'*. The demand for a transcendent is a 'biological' implication: so too, taken as an assumption, it is 'biological'. Because this implication is asymmetrical, the transcendent can be both 'in' and 'beyond' experience; as 'implied' it is 'known'.] Report of the sections of anthropology and psychology of the New York Academy of Sciences. III., 11. **W. P. Montague.** 'On the Nature of Induction.' [To show that the evidential function of particulars is to disprove alternative hypotheses and thus by elimination to establish the survivor.] **F. C. Becker.** 'The final edition of Spencer's *First Principles*' [Spencer has not moderated his agnosticism, and still fails to distinguish between "thinking and imaging".] Finale of discussion

between Prof. Miner and Dr. Baird. III., 12. **E. G. Spaulding.** 'The Ground of the Validity of Knowledge,' III. [Argues that knowledge always transcends itself, both in its 'alogical' forms, (1) memory, because what is remembered is 'beyond' the memory-act and unalterable by it, (2) imagination, similarly, and (3) perception, which is taken to be of a real object; and (4) in its 'logical' form, where the implications transcend the assertion. It is, however, admitted that the 'independence' of the object may not be 'absolute,' though not apparently perceived, either that the 'transcendence' is a mere claim, or that it after all falls *within* the experience-process.] Report of meeting of the Western Philosophical Association and abstracts of papers. III., 13. **William James.** 'G. Papini and the Pragmatist Movement in Italy.' [Calls attention to "an extraordinarily well-informed and gifted, and above all an extraordinarily free and spirited and unpedantic group of writers," whose programme of an '*Uomo-Dio*,' whether to be called, "Promethean or bull-froggian" is "one of the possible great type-programmes of philosophy," and contrasts their style with that of the "bald-headed and bald-hearted young aspirants for the Ph.D." of American seminars, who "have all these years been accustomed to bore one another with the pedantry and technicality, formless, uncircumcised, unabashed and unrebuked, of their 'papers' and 'reports'."] **V. A. C. Henmon.** 'The Detection of Colour-Blindness.' [A reduction in colour sense is commoner than is usually supposed, and there are all degrees of ability to discriminate colours, of which colour-blindness is only the lower extreme.] **W. B. Pitkin.** 'Why Solipsism is rejected.' [*Cf.* III., 4. Distinguishes between the dogmatic absolutistic solipsism which denies the existence of others, and the negative sort which merely denies the proof of this.] **J. R. Angell.** 'A Reply to Mr. Marshall.' Section of Anthropology and Psychology of the New York Academy of Sciences. III., 14. **K. Gordon.** 'Metaphysics as a Branch of Art.' ["The truths of art and of metaphysics are felt truths, but are not facts which have at any time been demonstrated."] **E. G. Spaulding.** 'The Ground of the Validity of Knowledge,' IV. ["It is upon the peculiar and distinctive characteristics of the *transcendent* that knowledge and knowing depend." Their "structure is complex and involved" and the transcendent is the source both of the need and the means of satisfaction.] Report on the Yale Meeting of Experimental Psychologists. III., 15. **B. H. Bode.** 'Realism and Pragmatism.' [Criticises the realism of Hobhouse and G. E. Moore, and concludes that "the endeavour of pragmatism to derive both sense and thought from a more fundamental category is no more successful than the attempts already noted to reduce all 'acquaintance-with' to the category of 'knowledge-about,'" which duality seems so far ultimate.] **A. E. Davies.** 'The Personal and the Individual.' [Both are "differentiations within a given group".] **G. Santayana.** 'The Efficacy of Thought.' [A comment on A. W. Moore's review. Distinguishes eight senses in which thought may be said to be 'efficacious,' of which he rejects three, and explains that his book was merely "a biography of human reason," and not "a complete cosmogony".] III., 16. **W. E. Hocking.** 'The Group Concept in the Service of Philosophy.' ["The primordial data of mathematics must always be pragmatically defined, in the sense that they express *particular results* of the character of the concept, and not the character itself." The Group Concept rests on three postulates.] **F. L. Wells.** 'Linguistic Standards.' [Results of making graduate students supply 'missing words' in a context.] **T. P. Bailey.** 'Snapshot of an Association Series.' [Infers that 'real association is fundamentally social' and dependent on practical interests.] III., 17. **M. P. Mason.** 'Reality

as Possible Experience.' [Argues that Royce's 'constructive idealism' is unnecessary, because Kant's idea of reality as possible experience is adequate if 'possible experience' is taken to mean not immediate experience but the knowledge gained from it.] **G. A. Tawney.** 'Two Types of Consistency.' [Habit and Readjustment, the one easy, familiar, certain, the other difficult, tentative, experimental. But the one forever passes into the other.] **L. P. Boggs.** 'The Relation of Feeling and Interest.' [Feeling is often the predominating factor in the initial states of interest, but the two are not identical.] **E. A. Norris.** 'Feeling.' ["The whole psychical process becomes in the last analysis a feeling process" if feeling is "left free to represent the undifferentiated, basic psychical *something* or *somewhat*".]

International Journal of Ethics. Vol. xvi., No. 4, July, 1906. **J. Oliphant.** 'Moral Instruction.' [Should be informal and unsystematic, and suggestive rather than authoritative or dogmatic. Should be directed to enlarging the child's views of the influence of his acts, and quickening his sensitiveness to the feelings of those whom they affect.] **C. F. Dole.** "About Conscience.' ["Conscience is not a negative sense; it is positive and constructive. . . . It is the tie, or the force, which binds men socially, and like a spiritual gravitation, draws them to the thought of a universal Life."] **S. Coit.** 'Humanity and God.' [The Positivist doctrine requires the identification of Humanity with the Supreme or Perfect Being, through the Ethical conception of the Moral Ideal.] **E. E. Constance Jones.** 'Mr. Moore on Hedonism.' [A detailed defence of Hedonism, such as Sidgwick's.] **A. Schinz.** 'Literature and the Moral Code.' [A comparison of the French and the Anglo-Saxon attitudes as to the relation between art and public morality.] **M. F. Eastman.** 'Patriotism; a Primitive Ideal.' ["The idea of patriotism stands counter to the real ethical sense of the times, as egoism and injustice. . . . Patriotism is a virtue in the childhood of nations, as pride is a virtue in children, a prerequisite of growth."] **H. S. Salt.** 'The Sportsman at Bay.' [Humanitarian answer to the arguments of apologists for sport.] Book Reviews.

Revue Neo-Scolastique. Mai, 1906. **Clodius Piat.** 'The Future Life according to Plato.' **A. Mansion.** 'Induction in Albert the Great.' [Neither Albert nor St. Thomas attain to scientific induction, the first traces of which appear in Duns Scotus.] **S. Deploige.** 'The Conflict of Moral Science with Sociology.' [Exposition of the views of M. Durkheim.]

Revue de Philosophie. 1er Juillet, 1906. **G. Chatterton-Hill.** 'Moral Physiology.' [The individual is insatiable, insatiability breeds disappointment: therefore individualism in the struggle for life, unrestrained by social ties, is apt to end in suicide, as statistics show.] **E. Baudin.** 'The Philosophy of Faith according to Newman.' [A vigorous attack, from the standpoint of intellectualism, upon the philosophy of the *Grammar of Assent:* the theology is to be dealt with in another article; with this article compare the subsequent analysis of **Ollé-Laprune's** 'Reason and Rationalism.'] **E. Baron.** 'The Lower Psychism.' [Analysis of **Dr. Grasset's** 'Le Psychisme Inférieur,' an important contribution to the physiology of free will.] 1er Août, 1906. **A. D. Sertillanges.** 'Agnosticism or Anthropomorphism, in reply to M. Gardair.' [On the saying of St. Thomas, C. Gent. I. 30: "We cannot take in of God what He is, but what He is not, and how other beings stand related to Him."] **A. de Gomer.** 'The Moral Problem and Science.'

[Can we have a science of human activity, having all the rigour of physical science? and can we found thereupon a rational moral art, away from all notion of free will, obligation and responsibility?] **X. Moissant.** 'The Marvellous in Psychology.' [On the mystical union and the graces of higher prayer.]

Revue Philosophique de la France et de l'Etranger. 31e année. No. 5. Mai, 1906. No. 6. Juin, 1906. **G. Compayré.** 'La Pédagogie de l'Adolescence.' [Analyses and occasionally criticises, from the pedagogical point of view, Mr. Stanley Hall's recent book on *Psychology of Adolescence*. Like J. J. Rousseau, with whose views his pedagogy has often much affinity, Mr. S. Hall draws too hard a line between the ages of infancy and of adolescence. Viewed generally, the book lacks order and logic: the author has gathered and accumulated materials rather than built an edifice. But he is to be praised for having laid, with labour worthy of admiration, the foundations of the future building.] **A. Binet.** 'Les premiers mots de la thèse idéaliste.' [A careful examination of the two arguments afforded by Strong in his book, *Why the Mind Has a Body*, in defence of the idealistic thesis. The first, based on the existence of physiological mediation between object and perception, is not at all demonstrative of the non-physical character of perception: this argument, on the contrary, may be retorted against the idealist. As to his second argument, the metaphysical one, founded on absolute opposition of nature and lack of communication between mind and matter, it is fundamentally constituted by a set of arbitrary metaphors, realistic at bottom.] **Th. Ribot.** 'Comment les passions finissent.' [There are five essential forms, to which all other are reducible, of the extinction of a passion: *i.e.* exhaustion or habit, transformation into another, substitution, madness, death. These forms are successively described, analysed and illustrated by the author, who sums up his general conclusion thus: "The probability of extinction of a passion is in a direct ratio to the quantity of emotional elements, and in an inverse ratio to the quantity of intellectual elements which it holds in a systematised state."] Revue critique. **H. Delacroix.** 'La Philosophie pratique de Kant.' [Critical notice on the recent book of M. Delbos, "a first-rate work".] Analyses et Comptes rendus. Revue des Périodiques étrangers. No. 7. Juillet, 1906. **L. Lévy-Bruhl.** 'La Morale et la Science des Moeurs.' [A very interesting reply to some objections directed by MM. Fouillée, Cantecor, Belot and others against his theory as propounded in his book, *La Morale et la Science des Mœurs*. The theoretical objections to his conception of ethics as a science of morals, as well as the prediction of its dangerous consequences either for the moral consciousness or from the point of view of political and social action, arise alike, according to M. Lévy-Bruhl, out of a reluctance to accept thoroughly the idea of a "moral nature" and the necessity of a scientific knowledge of that nature.] **J. Sageret.** 'La Commodité scientifique et ses Conséquences. [M. Poincaré has completed the positivist conception of science by adding to it that the object of a science is also to express the relations and the systems of relations in a convenient language. M. Sageret seeks what consequences flow for the idea of science from this notion of conveniency. The most important of these is that the mathematical sciences (so-called) are to be wholly separated from the homogeneous group constituted by the other sciences. Mathematics should be classed among the arts, that is to say, among those arts which are both means of expression and of action. Thus science proper will never assume the character of artificial system nor scientific truth appear to be variable, when the scientist sub-

stitutes more convenient means of expression and action for less convenient means. Thus also shall we get an altogether general idea of science, on the principles of positivism.] **G-L. Duprat.** 'Contre l'intellectualisme en psychologie.' [A very brief sketch of the evolution of mind, with the view of showing the possibility of what the author calls a psychology liberated from the intellectualist prejudice, *i.e.* a scientific psychology whose principles of explanation would be derived from the consideration of genial tendencies and conservative habits.] Revue Critique. **Lionel Dauriac.** 'Un Historien de la philosophie grecque.' [A brilliant article on volumes i. and ii. of the French translation of Th. Gomperz's *Les Penseurs de la Grèce*.] Analyses et Comptes rendus. Revue des Périodiques étrangers. No. 8. Août, 1906. **F. Le Dantec.** 'Les objections au monisme.' [A defence of monism as defined by the following formula: "Nothing happens in man without the modification of something that can be measured". It is impossible for a monist who accepts this formula to conceive consciousness otherwise than as a mere epi-phenomenon. This latter theory, whose vindication seems to be the veritable aim of the author, will be studied in a second article.] **Roerich.** 'L'Attention spontanée dans la vie ordinaire et ses applications pratiques.' [Spontaneous attention is either primitive or apperceptive. These forms in their relation to ordinary life are both studied by the writer, who states and illustrates, in a very interesting way, their scientific laws and the practical rules to be derived from them.] **A. Chide.** 'La Logique avant les logiciens.' [Rationalistic logic or the philosophy of concepts has crushed down, by the genius of Socrates and the Platonists, the other logics or dialectics that could possibly have organised the ideation and life of our (so-called) Aryan race. But was this logic necessary? The only method to find an answer is to seek whether the general original structure of our Indo-European languages is in conformity with the rationalistic logic or not. A survey of the diverse linguistic theories of Bopp, Brugmann, Regnaud, etc., leads M. Chide to an identical conclusion, *viz.*, that the primitive thought was not at all directed towards rationalism. The primordial conception is aware of all relations, all modalities: subsumption is unknown to it. It is to a subsequent deviation from nature and a kind of aberration that the emergence of the characteristics of rationalised mind is to be ascribed.] **Edme Tassy.** 'Le Sympathique et l'idéation.' [Mainly physiological.] Analyses et Comptes rendus.

Revue de Métaphysique et de Morale. 14e Année, No. 3, May, 1906. **A. Espinas.** 'Pour l'histoire du Cartésianisme.' [Traces the history of certain Platonic elements in Descartes' philosophy.] **H. Poincaré.** 'Les mathématiques et la Logique.' [A reply to the criticisms of Pieri, Couturat and Russell.] **L. Couturat.** 'La Logique et la philosophie contemporaine.' [The opening address of a course on the history of modern Formal Logic.] **L. Weber.** 'La morale d'Épictète et les besoins présents de l'enseignement moral.' [Continued from the *Revue* of November, 1905.] **D. Roustan.** 'La méthode biologique et les théories de l'immunité.' [Considers the views held by Metchinkoff, Le Dantec and Ehrlich, regarding the defence of infected organism, and discusses their general philosophical significance.] Livres nouveaux, etc. A supplementary number (No. 3 *bis*), costing 2 francs, accompanies this issue. It contains six hitherto unpublished manuscripts of Maine de Biran, the titles of which are as follows: 'Conversation avec MM. Degérando et Ampère'; 'Discours,' defending his philosophy against objections; 'Objections à la théorie des idées de Locke'; 'Valeur du mot "principe" dans le langage psychologique'; 'Comparaison des trois

points de vue de Reid, Condillac et M. de Tracy sur l'idée de l'existence ou le jugement d'extériorité'; 'Notes sur Malebranche'. 14e Année, No. 4, July, 1906. **Sully Prudhomme.** 'Psychologie du libre arbitre.' [A defence of the freedom of the will. The idea of freedom could never have arisen, even as an illusion, if all things were necessarily determined. By its very existence it proves its objective validity.] **A. Fouillée.** 'La doctrine de la vie chez Guyau, son unité et sa portée.' **E. Halévy.** 'Les principes de la distribution des richesses.' Livres nouveaux, etc.

Zeitschrift f. Psychologie. Bd. xli., Heft 5 u. 6. **L. Burmester.** 'Theorie der geometrisch-optischen Gestalttäuschungen, I.' [General discussion of the illusions of conversion which appear in monocularly fixated objects: illustrations from rectangular sheet of cardboard, leaves of cardboard bent at a right angle, cube, model of stair; influence of shadows, illumination, surroundings, magnitude and nature of object, practice, etc. Detailed account of observations on the rectangular sheet of cardboard, and deduction of the fundamental theoretical relations.] **A. Oelzelt-Newin.** 'Beobachtungen über das Leben der Protozoen.' [A strong plea for the ascription of mental processes to the lowest forms of animal life. Discussion of sensations of the chemical sense, sensations of touch, sensations of warmth, sensations of the static sense, sensations of movement, sensations of light, ideas, feelings and will, in various forms of unicellular organisms. Remarks on Hydra.] **E. Jaensch.** 'Ueber Täuschungen des Tastsinns, im Hinblick auf die geometrisch-optischen Täuschungen, II.' [The filled (divided) distance is always overestimated, never underestimated, when compared with the empty; cases of underestimation observed under certain circumstances (James's illusion) have nothing to do with the motive to illusion as such, but depend upon secondary criteria (timidity, endeavour after ease of movement). Various modifications of the original experiments are described; their results confirm the author's theory.] **E. Ackerknecht.** 'Zur Konzentrationsfähigkeit des Träumenden.' [A definition of the thing-in-itself formulated during a dream.] Literaturbericht. Berichtigung. Bd. xlii., Heft 1. **M. Radakovic.** 'Ueber eine besondere Klasse abstrakter Begriffe.' [Analyses the process of thought involved in the conception of limiting values in mathematics. The concepts of the straight line, and of the empty space of physics, lead to the following definition: limiting concepts are abstract concepts, which are obtained in accordance with certain (specified) rules from the consideration of a quantity of infinitely numerous objects, arranged in a definitely ordered series.] **V. Gruenberg.** 'Ueber die scheinbare Verschiebung zwischen zwei verschiedenfarbigen Flächen im durchfallenden diffusen Lichte.' [Let two differently but uniformly coloured surfaces be set at such a distance from the source of light that they appear to lie in the same plane. If the intensity of illumination here be taken as 1, then with intensities of 2, 3, 4 . . . the colour lying towards the red end of the spectrum advances as far before the colour lying towards the blue end as, conversely, the blue advances and the red recedes if the intensity of illumination is reduced to $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$.] **V. Benussi.** 'Experimentelles über Vorstellungsinadäquatheit. I. Das Erfassen gestaltmehrdeutiger Komplexe.' [It has been shown that, when we apprehend certain complexes of objects of sensation (points or lines), the resulting inadequacy of the idea of form (optical illusion) is conditioned upon the formation of this form-idea itself, and not simply upon the spatial arrangement or the simultaneous observation of the objects of sensation. In view of Schumann's theory of the optical illusions, the question then arises: given the unitary ideation of a complex of objects of sensation which is constant, observed in all its components,

but still equivocal as regards form, does the inadequacy of the idea of form suffer change, according as the one or the other of the forms presented by the complex is apprehended —so that this variation of inadequacy may be referred to the formation of the idea of the different forms, as to the sole variable factor in the case? By means of experiments (*inter alia*, upon the Mueller-Lyer figure), the writer is able to answer this question in the affirmative.] Literaturbericht.

KANT-STUDIEN. Bd. xi., Heft 2, June 1906. **Bruno Bauch.** 'Chamberlains *Kant*.' [A severe criticism of this recent work.] **P. Hauck.** 'Die Entstehung der Kantischen Urteilstafel.' [A comparison of Kant's divisions with those of Wolff, Baumgarten, Meier and Lambert.] **W. Meinecke.** Die Bedeutung der Nicht-Euklidischen Geometrie in ihrem Verhältnis zu Kant's Theorie der mathematischen Erkenntnis.' [A defence of the Kantian position. The non-Euclidian geometry does not refute but complements the positions developed in the Æsthetic.] **E. Sulze.** 'Neue Mitteilungen über Fichte's Atheismusprozess.' **Ebstein** und **Jünemann.** 'Ein unbekannter Brief Kants an Nicolovius.' Recensionen, etc.

ARCHIV FÜR SYSTEMATISCHE PHILOSOPHIE. Neue Folge. Bd. xii., Heft 2, 2nd June, 1906. **Kurt Geissler.** 'Über Begriffe, Definitionen und mathematische Phantasie' (Schluss). **Viktor Stern.** 'Ein neues Argument gegen den Materialismus.' [That which cannot be inherited cannot be material, for the power of acquisition by inheritance is a characteristic of all material phenomena. Materialism justified by all other psychical processes, but refuted by the existence of that which cannot be inherited, *viz.*, knowledge.] **Emil Bullaty.** 'Erkenntnistheorie und Psychologie.' [A long instalment of an article critical at once of Formalism and Psychologism. Experience free from assumption reveals itself immediately as a consciousness and a world of phenomena forming, not the goal, but the starting point of epistemological and psychological investigation. Consciousness itself is free from all assumption, and in it must be found the motives for the assumption of inner and outer, subject and object. To assume for consciousness itself motives created from it perverts the fundamental facts.] **Berthold Weiss.** 'Lamprechts Geschichtsphilosophie.' [Appreciative of Lamprecht's *Moderne Geschichtswissenschaft*. Lamprecht's schema of psychological development from psychical dissolution characterised by emotion and enthusiasm, by way of rationalising tendencies to rational rigidity, justified in every region of evolution. His work the opening of a new era in the writing of history.] **Max Freischeisen Köhler.** 'Über die Grenzen der naturwissenschaftlichen Begriffsbildung.' [Critical of Rickert's view that a unique occurrence cannot be dealt with by the concepts of natural science. Its conceptual structure is not exhausted by mere abstraction and consideration of the universal. Many of the concepts elaborated by science satisfy the requirements which can be demanded for the investigation of facts. Discussion of the description of individual realities by the conceptions of natural science, illustrating from astronomy, chemistry, etc.] **David Koigen.** 'Jahresbericht über die Literatur zur Metaphysik,' II. (Fortsetzung). Neuste Erscheinungen, etc.

VIERTELJAHRSSCHRIFT FÜR WISSENSCHAFTLICHE PHILOSOPHIE UND SOZIOLOGIE. Jahrgang xxx., Heft 2. **Emil Koch.** 'Über naturwissenschaftliche Hypothesen.' [Not a discussion of the value of hypotheses, but a consideration of those features of most psychological interest. Emphasises the importance of the visual in all scientific work. Hypo-

theses preponderantly the visually representable. Explanation through examples from electrical science, etc. Theory an independent process as against observation and hypothesis.] **Georg Wernick.** 'Der Wirklichkeitsgedanke,' I. Artikel. [The objective and subjective beliefs of reality are two different psychical processes relating to the same content. Reality not originally a concept but a *thought*, which, like every thought, can be reduced to processes of representation. Rejection of the theory that the belief in reality is due to any feeling of necessity: it is, in a sense, a process of association. Relation between subjective and objective reality, etc.] **Paul Barth.** 'Zu J. St. Mills 100. Geburtstage.' [Mill a spirit from whom little splendour, but much light and warmth has emanated and will continue to emanate for cultured mankind.] Besprechungen. Selbstanzeigen. Notizen.

Rivista Filosofica. Anno viii., vol. ix., Fasc. iii., May-June, 1906. **F. Bonatelli.** 'Intorno alle attinenze tra l'ideale e il reale.' [After a lengthy analysis—involving some unproved assumptions—the conclusion arrived at is that neither can ideas be conceived without realities, nor realities without ideas, but that the logical priority belongs to ideas.] **A. Ferro.** 'Meccanismo e teleologia (continuaz. e fine).' [The various doctrines of organic evolution have failed to make teleology superfluous. It must not, however, be confounded with the theistic argument from final causes. Kant was right in considering finality as a regulative idea rather than as a genuine explanation of nature.] **G. Della Valle.** 'Le nuove forme dell' etica irrazionalista.' [The irrationalist systems of ethics—among which this writer includes Pragmatism—agree in nothing but the rejection of reason and the appeal to instinctive belief. As positive teaching they vary from the most exalted mysticism to the crassest egoism.] **A. Aliotta.** 'La reazione al Positivismo.' [A review of Benedetto Croce's recently published *Logic*.] Rassegna Bibliografica, etc.

IX.—NOTE.

Among the numerous translations of scientific and philosophical works published nowadays there are many that are thoroughly bad, adding not a little to the student's difficulties, and often leading him astray. But he is generally, in the nature of the case, without adequate means of testing their accuracy. They escape any definite exposure, and are followed by others equally bad. The only stimulus to the raising of the standard seems to lie in some public criticism more detailed and decisive than is possible in an ordinary review. A translation recently published of Prof. Höffding's admirable little book, *Philosophische Probleme*,[1] is a piece of work that, appearing under such auspices (see end of Preface), is a direct challenge to criticism, which becomes a public duty. It will be sufficiently characterised by the following specific criticisms, which I will endeavour, so far as space allows, to put in such a form as to be intelligible to all who have some little knowledge of German.

What is to be said of a translator who has not yet learnt that *also* never means 'also' (p. 73, l. 13 of the translation; 108, 8; 127, 14), and *eben* never means 'even' (57, 16; 62, 11); who renders *darf nicht* by 'need not' instead of 'must not' (73, 3; 79, 10; 124, 12); who confuses *zugleich*, 'at the same time,' with *sogleich*, 'immediately' (109, 5); *deuten*, trans., 'to interpret,' with *deuten auf*, 'to point to' (82, 23); *entscheidend*, 'decisive,' with *verschieden*, 'different' (128, 20; 146, 13); *Reichtum* 'wealth,' with *Reich*, 'empire' (76, 18; 143, 16); *namentlich*, 'especially,' with *nämlich*, 'that is to say' (146, 12); *auf etwas verweisen*, 'to point to . . .,' with *einem etwas verweisen*, 'to reprove a person for . . .' (135, 11); and who grotesquely misrenders such common phrases and idioms as *was . . . betrifft*, 'as to . . .' (100, 1); *es kommt darauf an* (77, 9; 128, 10); *in dieser Beziehung* (75, 11); *die Rede ist von etwas* (82, 1); *hierzu kommt noch* (105, 11); *nicht einmal*, 'not even' (44, 5; 196, 28); *sich anschliessen* (30, 13; *cf. Anschluss*, 89, 10, translated 'addition'); *zur Verfügung stehen*, etc., etc. It will be noted that these mistakes show ignorance of German rather than of philosophy, but there is no lack of others which a regard to the philosophical meaning would have made impossible. '*Wesen*' *des Bewusstseins* is rendered 'existence,' instead of 'nature' or 'character,' of consciousness (19, 6); *Sinnesempfindungen*, 'emotions' (42, 21); *die unwillkürliche Denkarbeit*, 'unconscious thought' (67, 2); *Handlung* (action), 'construction' (69, 12); *Deckungsgleichheit* (equivalence), 'outward likeness' (82, 9); *Bestehen* (= persistence, continuance), 'organisation' (148, 6), 'upbuilding' (149, 8), 'existence' (154, 10); *Handgriff* (trick, device), 'tool' (80, 17); *Umwertung* (re-valuation), 'unworth' (*sic*, 157, 5); *allerdings*, concessive, 'to be sure,' is made strongly assertive, 'by no means' (153, 17);

[1] *The Problems of Philosophy*, by Harald Höffding. Translated by Galen M. Fisher. With a preface by William James. New York: The Macmillan Company; London: Macmillan & Co., 1905.

nun einmal, indicating that something is 'once for all' so, and there is an end of it, is rendered 'for the present' (183, 18). Misunderstanding of the simplest constructions is frequent. We find *den Prinzipien, die unser Bewusstsein zu gestalten vermag* translated 'the principles which may compose our consciousness' (146, 6; *die*, acc. plur., is taken as a nom., and constructed with a sing. verb); *in dem gegebenen Inhalt der Erkenntnis* (in the given content of knowledge), 'in the content given to knowledge' (109, 24; the genit. *der* is taken as a dat. and the phrase is rendered as if the order of words were *in dem der Erk. geg. Tub.*); *eine positive Charakteristik der letzteren zu geben* (to give a positive description of the latter), 'to give that totality a positive character' (117, 8): *Resultate, zu denen wir gelangen* (results we arrive at), 'results that we are striving after' (134, 22); *die uns zugänglichen Erscheinungen* (the phenomena accessible to us), 'the familiar phenomena' (138, 17); *Der Entwickelungsbegriff tritt auf, sobald es sich erweist, dass . . .* (The conception of evolution makes its appearance as soon as it is seen that . . .), 'The conception of evolution involves, as soon as it is proved, the idea that . . .' (146, 6; the impers. neut. *es* is referred to the masc. subst.); *jede bewusste Wertung besteht in einem solchen Vergleichen* (every conscious estimate of value consists in . . .), 'every known standard of value is subject to . . .' (156, 10); *Die Religion hat sich hier durchweg rezeptiv zu . . . verhalten* (Religion has always maintained a receptive attitude towards . . .), 'Religion has in these cases usually held herself aloof from . . .' (183, 18). *Stichwahl* (final or definitive choice) is in 138, 22, and 143, 4, entirely misunderstood, and the latter passage rendered, 'preserve a neutrality between,' instead of 'make a choice between'.

The above examples are less than one-half of my list, which would be doubled if all the passages were added which would have to be amended before this translation of 200 small pages could be regarded as at all fit for publication.

H. J. Wolstenholme.

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